THE RESILIENCE SHIFT

The ROCKEFELLER FOUNDATION

100 RESILIENT CITIES

SIWI

ARUP

CITY WATER RESILIENCE ASSESSMENT

HULL AND HALTEMPRICE

WATER RESILIENCE PROFILE

HULL AND EAST RIDING LIVING with WATER

Working in partnership to make Hull a resilient city living in harmony with water

Hull City Council

Environment Agency

EAST RIDING OF YORKSHIRE COUNCIL

YorkshireWater

www.LivingWithWater.co.uk

ACKNOWLEDGEMENTS

The City Water Resilience Assessment (CWRA) project team for Hull and Haltemprice includes George Beane (Arup), Tom Doyle (Arup), Louise Ellis (Arup / The Resilience Shift), Sophie England (Arup), Sophie Fisher (Arup Project Manager), Louise Kennedy (Arup), Iñigo Ruiz-Apilánez (Arup / The Resilience Shift), Martin Shouler (Arup Project Director), Paul Simkins (Arup Project Lead and Lead Author/Designer), Phillipa Stanley (Arup) , Karina Hoggarty (Arup), Roman Svidran (Arup), Lu Yang (Arup)

The Living with Water (LWW) team includes Emma Brown, Eve Pierrepont, Catherine Johnson, Rachel Glossop, Andrew Barron, Lynnsey Pilmer, Astrid Paget, Martin Budd, Lee Pitcher

Living with Water, Hull and East Riding is a unique partnership between the Environment Agency, Hull City Council, the East Riding of Yorkshire Council , Yorkshire Water and the University of Hull. For more information visit livingwithwater.co.uk

CONTENTS

3 Foreword
4 Executive Summary
8 INTRODUCTION
18 ASSESSMENT
28 CHALLENGES
40 OPPORTUNITIES
52 ROADMAP

FOREWORD

There have never been more questions asked of a generation than this one. Our one. And there has never been more requirement for us collectively to act. We are arguably in a period requiring the most accelerated change in history. Around us, we see the impact on a daily basis of an altering climate; an accelerating extinction of animals; and the potential for longer, dryer periods and flooding to be the most frequent natural disasters around the globe.

Living with Water, Hull and East Riding (LWW) began its journey in 2017 following the devastating floods of 2007 and has already been recognised by the British Quality Foundation as the best in the UK for Excellence in Collaboration. Now a mature partnership between the Environment Agency, East Riding of Yorkshire Council, Hull City Council, Yorkshire Water and, more recently, Hull University, LWW provides an opportunity to be an exemplar at both at local and global scale. LWW demonstrates how through partnership working across private, public and voluntary sectors we can intervene to transform traditional thinking and move towards a new sustainable world, managing water across the entire eco-system.

Collectively, we have a joint vision to create a blue-green masterplan that allows us to reduce flooding, and, in doing so, improve community resilience through education and co-creation of new types of natural infrastructure that will enhance the world around us. This allows our area to benefit both from economic regeneration and the ability to share knowledge to promote continuous improvement and wider learning from our work.

That is why the City Water Resilience Approach is so important to us. It has been used to take us on a journey of partnership discovery. We have learnt about our strengths and areas for improvement. We have responded to this by creating a roadmap and plans that allow us to deliver success for our communities with the same passion for Hull and East Riding as the residents who live and work there.

The world's biggest threats, with the right collaborative working, are Hull and East Riding's biggest opportunity. We want people to no longer fear water, but thrive from it for generations to come.

LEE PITCHER
General Manger
Living with Water, Hull and East Riding

EXECUTIVE SUMMARY

TOWARDS A WATER RESILIENT HULL

Water has always been at the heart of the development, prosperity and culture of Hull and its surrounding areas, Its land is reclaimed from the sea. The regional administration was shaped by the so-called 'water wars' of the 15th Century. Water has also been a threat to the region with over 55,000 homes and businesses flooded in 2007 at a cost approaching £3 billion. Many homes and business were impacted again during the 2013 coastal surge. Hull and Haltemprice face the second biggest flood risk in the United Kingdom outside of London. Communities here are amongst the most vulnerable to climate risks in the UK. The strengthening of Hull's water resilience will positively impact on the lives and livelihoods of its 260,000 residents and those of the wider catchment . Hull is a vibrant and creative city with a long history of bouncing back from challenges, adapting and moving forward. It is already addressing resilience across multiple sectors, from health and housing, to education, employment, water and climate adaptation. At the forefront of this work is Living with Water, Hull and East Riding (LWW), a unique partnership between the Environment Agency, Hull City Council, the East Riding of Yorkshire Council, Yorkshire Water and the University of Hull.

THE CITY WATER RESILIENCE APPROACH IN HULL

The City Water Resilience Approach (CWRA) provides a model for urban water resilience based on consultation with over 700 individual stakeholders and field work in eight cities around the world, including Hull. The CWRA recognizes that shocks and stresses on the water system can have cascading impacts on a range of other city systems. An approach has been developed that considers water within the wider context of urban resilience, and that engages with the diverse stakeholders involved across Hull, Haltemprice and the wider catchment.

As part of their ambitious programme to address water resilience, LWW have been actively involved in development and application of the CWRA, beginning with fieldwork and engagement with over 150 stakeholders during 2018. This report summarises the outputs from Step 2 of the CWRA process undertaken with LWW during 2020 . The outputs from Step 2 comprise a Water Resilience Profile that is built up through four steps, which are reflected in the structure of this report.

WATER RESILIENCE ASSESSMENT

During two interactive on-line workshops, stakeholders assessed each sub-goal within the City Water Resilience Framework through discussion and scoring of indicators. Over 50 participants attended each of the workshops. The results are summarised opposite.

CHALLENGE SETTING

The next step was to move from the assessment results to identifying a series of cross-cutting challenges emerging from the analysis. Fifteen challenges were identified. Stakeholders reviewed and priorited these through an on-line survey, providing further feedback. Six challenges were selected and developed for the visioning workshop.

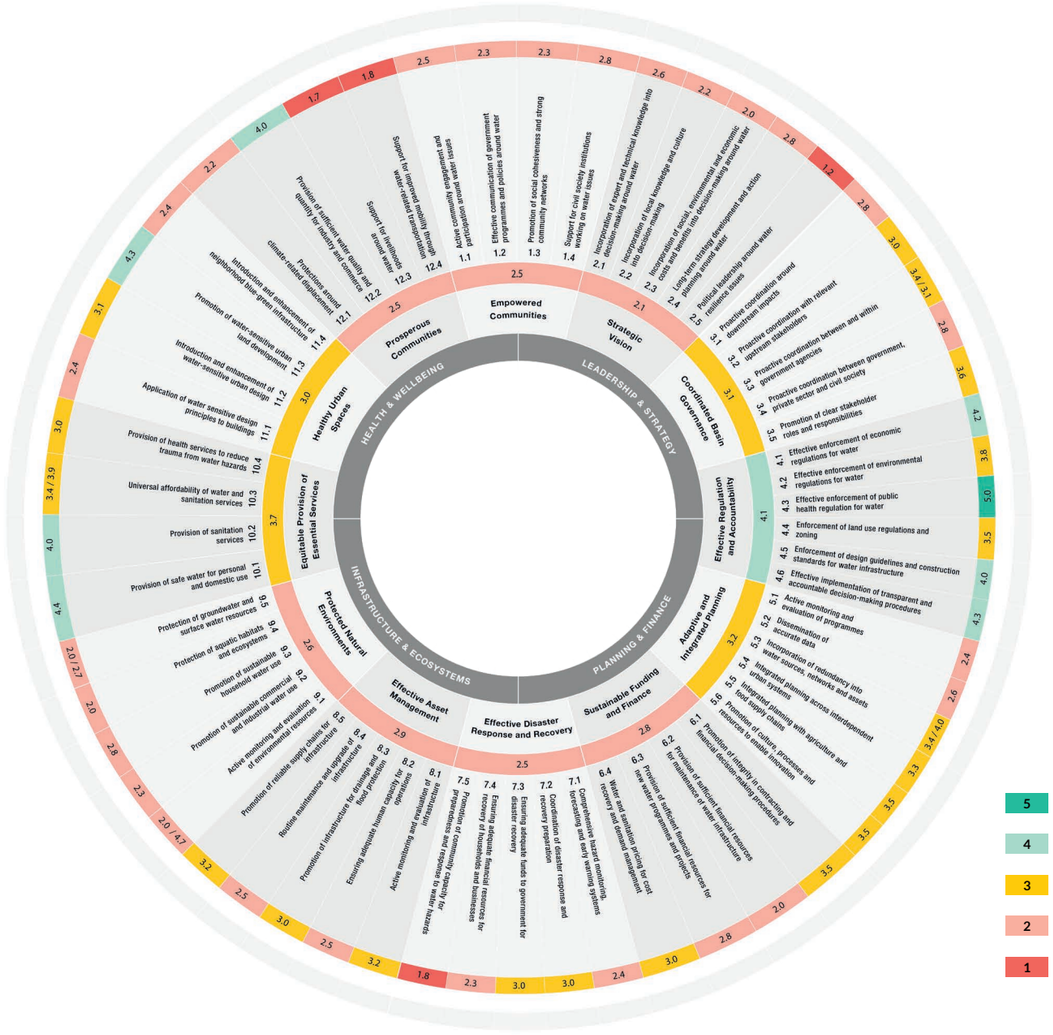
VISIONING AND OPPORTUNITIES

Over 50 stakeholders came back together for an on-line visioning workshop in which the six challenges were shaped into opportunities. Twelve opportunities were developed during the group sessions. The challenges and opportunities are summarised on Page 6.

ROADMAP AND PROFILE REPORT

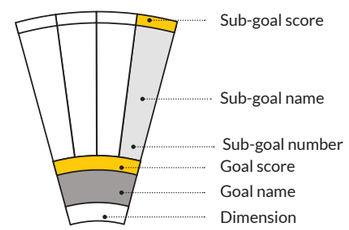
Following the visioning and opportunities workshops, Arup and the LWW team undertook further qualitative analysis to understand the alignments and interdependencies between the opportunities. An initial roadmap was formulated to support action planning going forwards (Page 7). The collective insights generated during development of this Water Resilience Profile are a continuation of regional efforts to explore holistic strategies to improve water resilience and deliver wider outcomes.

Results from the Hull and Haltemprice Water Resilience Assessment, **qualitative scoring**



RESILIENCE ASSESSMENT: STRENGTHS AND CHALLENGES

The water resilience assessment results show some real strengths, particularly in the areas of essential service provision, regulation and accountability linked to water supply, sanitation and public health. Strengths were also identified in planning for healthy urban spaces and water resilient design. Various cross-cutting challenges also emerge around the wheel, as summarised Page 6 and in Part 3 of this report.



FROM CHALLENGES...	...TO OPPORTUNITIES
1 Embedding a new shared narrative and culture change around water resilience How can we build on Hull's unique water story to embed new awareness and buy-in for water resilience in the culture of the city, from community and business to government?	1a Developing a shared narrative and resilience roadmap. Agreeing the direction of travel, starting now and keeping it fresh. 1b Growing long term narrative and culture change based on a shared vision for the future and embedding 'living with water' in everyday life.
2 Pro-active and resourced participatory engagement What is our next step be on the journey from information sharing to proactive and resourced engagement that integrates community insight into strategy and decision-making?	2a Establishing and resourcing a citizens participatory engagement forum supported by spaces, networks and access to information. 2b Expanding the programme of events and engagement exploring the role and value of water and how this relates to other agendas.
10 Water resilience for livelihoods: jobs, skills and the local economy How can the transition to a water resilient future create and sustain jobs, skills, and lifelong learning, improving livelihoods and supporting the local and regional economy?	10a Developing desirable and accessible local pathways to training, skills and jobs in water resilience. 10b Developing new business and innovation in water resilience. Supporting local economy whilst exporting products and services.
12 Mainstreaming and implementing water sensitive urban design How can we create a culture and delivery environment where high-quality water sensitive urban design (WSUD) is expected as standard and delivered on the ground, from homes, to workplaces, public realm and landscapes?	12a Lobbying for and achieving structural change to make WSUD easy and the norm, supported by demonstrators and evidence on the ground. 12b Creating public acceptance and demand for water sensitive design
13 Community-scale retrofit for water resilience and wellbeing How can we retrofit existing communities for water resilience and wellbeing, ensuring equitable investment and high-quality design at property, street and neighbourhood scale?	13a Expand the 'Soak it up' SUDs programme from schools to communities.alignign with SUDs masterplan 13b Evidence and delivery mechanisms for small-scale interventions.
15 Social and cultural capital for community water resilience How can Hull build on its strong sense of identity, place and community spirit, with resource and capacity building for local water resilience and wellbeing?	15a Align water resililence actions with existing community assets and priorities 15b Increase visibility and understanding of water infrastructure assets.

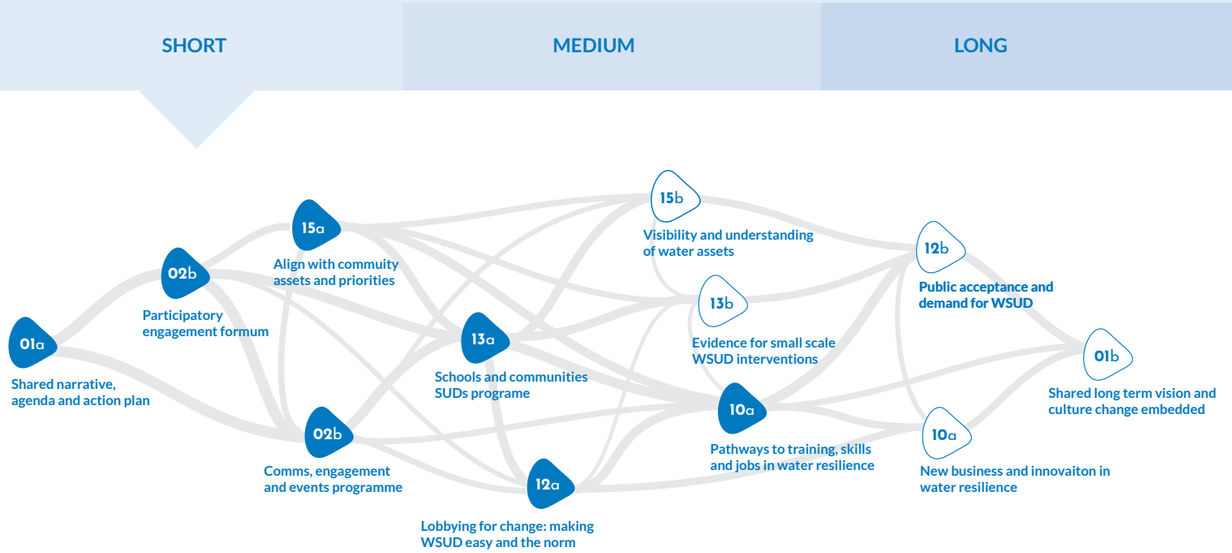
***Above**: From fifteen challenges, six were selected for fuirther development. In response to these six challenges, twelve opportunities emerged during the the visiong workshop. These opportunities form the basis of the emerging roadmap, shown opposite.*

TOWARDS A ROAD MAP FOR IMPLEMENTATION

The roadmap provides an overall framework, direction of travel, and a suggested starting point. It is an emergent process that should remain adaptive and responsive to stakeholders and to delivery context. Each of the opportunities identified is both a destination, a desired outcome, and also part of the journey: a potential action along the way. The participatory process itself will shape the roadmap and next stages of prioritisation and action planning.

01a Opportunities provisionally prioritised to inform the next stages of action planning. The road map will be reviewed on an ongoing basis and relative priorities will be shaped by this process.

01a Opportunities initially identified as more highly dependent and likely to emerge over time as a result of supporting actions taken in advance. This is indicative and may change over time.



NEXT STEPS

The Living with Water Partnership will be reviewing this Water Resilience Profile report and mapping the high-level roadmap against current and future planned activities, working with partners to refine priorities and identify resources. This is expected to be an adaptive and participatory process, reinforcing existing ongoing actions and working with communities and wider stakeholders towards a water resilient Hull.

'Upstreaming - visioning - what we want - I love that there is synergy around leadership and this as a catalyst to whole systems change in how we do things - and in a systems way!'

'It was an emergent process which is fantastic!'

'I found it useful and discursive. It was also good to meet some people I've heard of but not met before.'

'As a group, we agreed we want to meet again to continue the discussion - it was that good, productive, and energising. Thank you.'

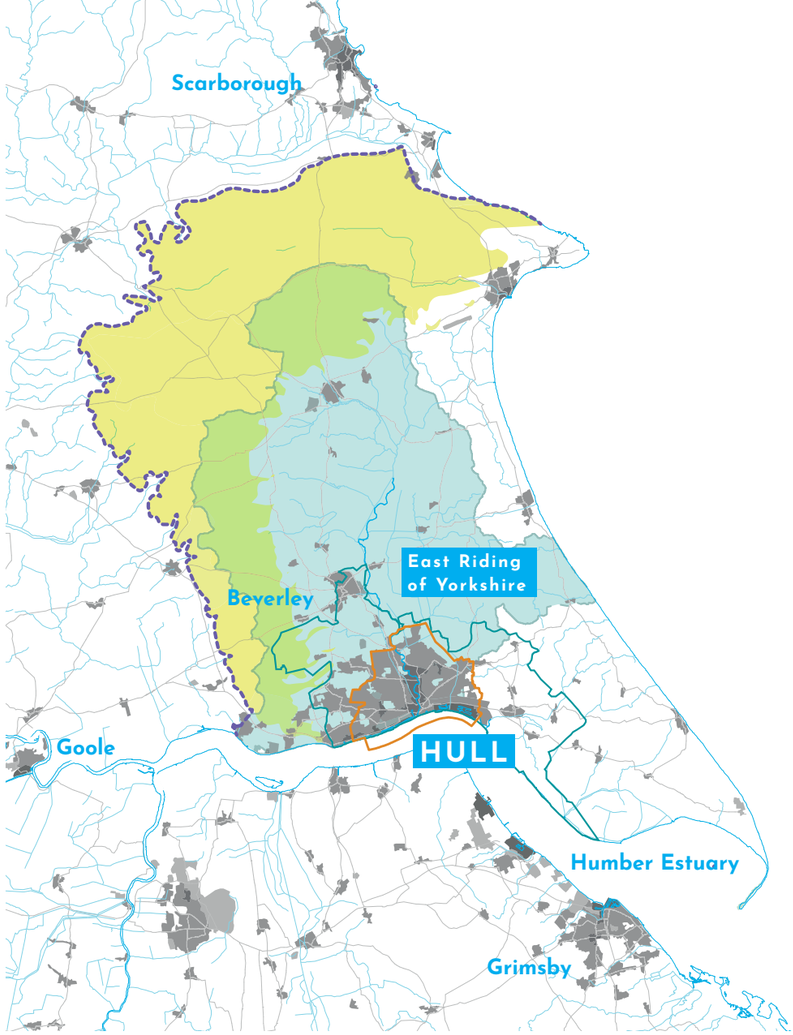
Above: the emerging roadmap. **Right:** Participant feedback from on-line workshop chat

1

INTRODUCTION

Explaining the focus of this report and providing some context on water resilience drivers at catchment and city scale . Providing an overview of the City Water Resilience Approach and Hull's part in its development and application. Unpacking the steps taken to prepare the Water Resilience Profile for Hull and Haltemprice.

TOWARDS A WATER RESILIENT HULL AND HALTEMPRICE



- Western boundary of underlying Yorkshire Chalk Aquifer
- The Yorkshire Wolds (Area of high ground & source of the River Hull)
- The River Hull Catchment
- The River Hull
- Hull City Council Boundary. Areas surrounding Hull are part of East Riding of Yorkshire Council (ERYC)
- Principal Urban areas
- Ports & industrial zones
- Main Roads
- Yorkshire Water operational area for Hull and Haltemprice, including water supply, surface water and wastewater

The Hull River Catchment

Overview map showing Hull catchment within the context of the Humber Estuary and wider Humber River Basin District. An overview of water systems at city scale is shown on Page 12.

INTRODUCTION

Kingston Upon Hull - normally abbreviated to Hull - is a port city of 260,000 people located on the north bank of the Humber Estuary in the heart of East Yorkshire. Founded on reclaimed tidal marsh, the story of Hull has always been shaped by water, both as an opportunity and as a threat. Now the city and neighbouring area of Haltemprice faces significant resilience challenges, not least due to its low-lying coastal location, with more homes at risk than any other UK City apart from London.

Despite signs of renewal, Hull remains one of the most deprived areas in the UK, with low health outcomes and high unemployment. Communities here are amongst the most vulnerable to climate risks in the UK. Despite its relatively small population the city plays a key role in the UK economy. The Humber is the largest trading estuary in the UK (by tonnage) and the fourth largest in northern Europe. It is emerging as a world-leading centre for renewables. Hull and the East Riding have recently attracted major investment in offshore wind energy. With a growing University of 16,000 students and as host for UK City of Culture 2017, the City is building a reputation for innovation, creativity and openness to change.

Hull has a long history of bouncing back from challenges , adapting and moving forward. It is already addressing resilience across multiple sectors, from health and housing, to education, employment, water and climate adaptation. Through LWW, the groundwork is being laid to align these actions into a comprehensive, catchment-wide water resilience strategy.

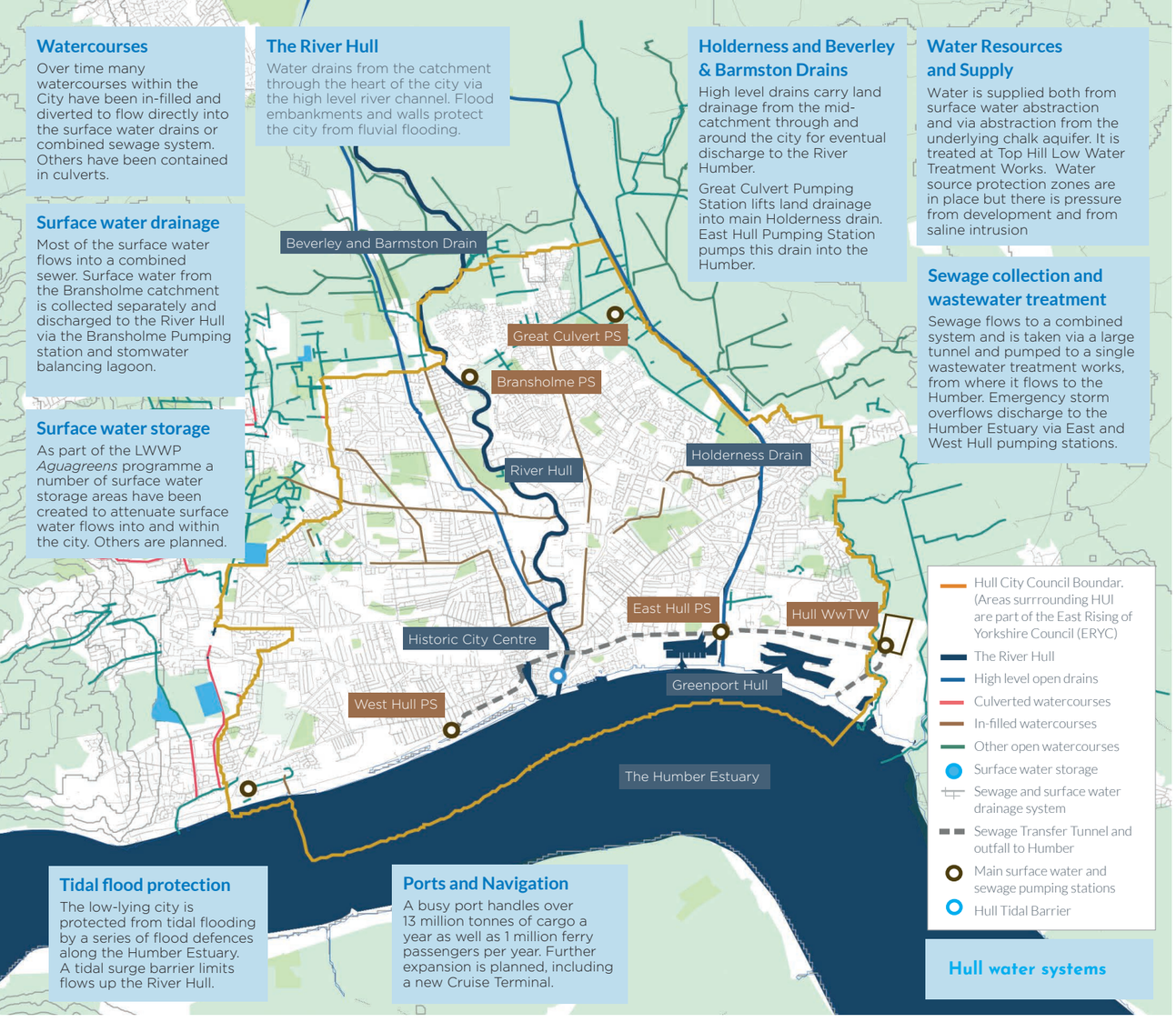
FOCUS OF THIS REPORT

Since 2018 LWWP has played a key role in developing the City Water Resilience Approach (CWRA) alongside global partner cities. During 2020 Arup worked with LWW and stakeholders to take this to the next stage, using the CWRA prepare a Water Resilience Profile for Hull and Haltemprice as set out in this report.

CATCHMENT CONTEXT

Hull and the neighbouring area of Haltemprice are located at the southern end of the River Hull Catchment, which stretches north to where the first chalk springs emerge from the Yorkshire Wolds. It sits alongside the Humber Estuary, which in turn is part of the wider Humber River Basin District. The Humber Estuary is a Site of Special Scientific Interest (SSSI) with multiple other designations under UK, European and International law. The low-lying land around the city was historically tidal marshland. It is very flat and made up of relatively impermeable tidal deposits. This natural topography, coupled with the higher-level docks and coastal defences to the south, creates a 'bowl effect' preventing natural drainage of the city, which is reliant on pumped drainage. Reclaimed marshland surrounding the low-lying urban areas of Hull provides very high quality arable land . There is increasing pressure on land use including developing ports an industrial areas to support the economy and provision of housing. This places further pressure on pumped drainage systems supporting agriculture, critical infrastructure and urban development. Maintaining this system needs to be balanced with an increasing need to find ways to slow the flow of water into the city.

Due to the nature of the reclaimed landscape there will always be a need to mange the water environment using a variety of green and 'grey' solutions. Despite significant challenges based on Hull's unique catchment characteristics, opportunities for nature-based solutions to water resilience are being considered. These include improved land management and natural flood management across the catchment along with innovative approaches within the city. The unique nature of the catchment raises a number of challenges that require innovative approaches to engagement, governance, funding and delivery. These are already being considered by LWW, and are further reflected in the outcomes of this Water Resilience Profile.



CITY CONTEXT

The city is fully reliant on pumping to remove surface water. Existing surface water systems are at or near capacity. Solutions to keep water out of the city are complex, requiring loss of prime agricultural land and collaborations across administrative boundaries. 84% of the surface water landing on the city flows into the combined system, including most of the watercourses, which have been culverted. A single wastewater treatment works takes all sewage flows from the city and is fully reliant on pumping. Much of the infrastructure is ageing and at or near capacity. Options for disconnecting surface water and reducing sewage flows, or holding it back upstream of the city, are complex due to the nature of the catchment. Hull has the most comprehensive Strategic Flood Risk Assessment in the UK, based on detailed understanding of integrated drainage systems to inform future development, but balancing pressure on land use with making space for water will be a major challenge. Retrofit of existing buildings and public realm will be key. Implementation will require innovative approaches to land use planning, urban design and development, engagement funding and finance. It will require new planning mechanisms, incentives and design guidelines.

Despite the extent of flood risk and impact on 9,000 properties during the 2007 floods, perception and awareness of risk is still relatively low, with only 5% of eligible households signed up to flood warnings. There is a need to reconnect the city with it's water story, to build shared understanding, buy-in and demand for actions that support water resilience across all sections of society. To see water resilience as an opportunity. These themes are reflected in the assessment discussions and the emerging challenges and roadmap outlined in this report.

THE CITY WATER RESILIENCE APPROACH

WATER RESILIENCE

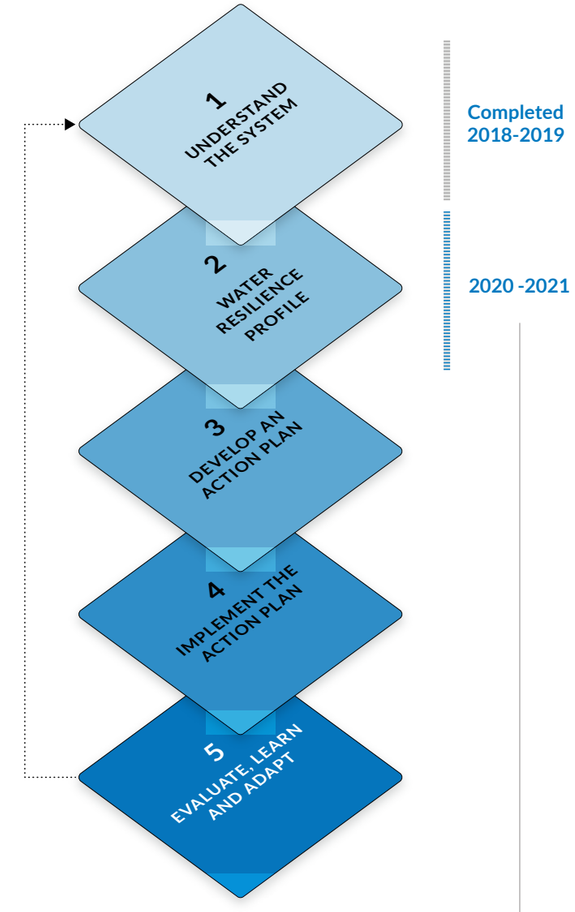
Water resilience describes the capacity of cities to function in the face of water-related shocks and stresses so that those living and working within the city can survive and thrive. A water resilient city is one that provides access to high quality water services for all residents, including water supply, wastewater and sanitation services. A water resilient city protects residents from water-related hazards. Assessing current strengths and weaknesses is a critical first step towards identifying and prioritising future actions.

THE CITY WATER RESILIENCE APPROACH (CWRA)

The CWRA responds to a demand for approaches and tools that help cities grow their capacity to provide high quality water resources for all residents, and to protect them from water-related hazards ("provide and protect"). The CWRA process outlines a path for developing urban water resilience, and provides a suite of tools to help cities survive and thrive in the face of water-related shocks and stresses.

The CWRA is based on fieldwork and desk research, collaborative partnerships with subject matter experts, and direct engagement with city partners. The approach was developed through investigations in eight cities and consultation with over 700 individual stakeholders It has been developed by Arup, working with the Stockholm International Water Institute (SIWI), 100 Resilient Cities (100RC), the Organization for Economic Co-Operation and Development (OECD). It was developed in close collaboration with city partners from **Hull** to Cape Town, Amman, Mexico City, Greater Miami and the Beaches, Rotterdam, Thessaloniki, and Greater Manchester.

The approach outlines five steps (see opposite) to guide partners through initial stakeholder engagement, baseline assessment and profiling, through action planning, implementation and monitoring of new initiatives that build water resilience: Step 2 has been applied with a number of cities including Miami and Cape Town. During 2020 this has been taken forwards in Hull.



This report summarises the application of CWRA Step 2: assesment and water resilience Profile for Hull and Haltemprice (see pages 16-17).

The City Water Resilience Approach, showing (on the right), application so far in Hull and Haltemprice

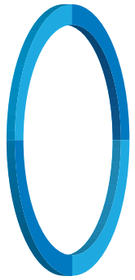
THE CITY WATER RESILILENCE FRAMEWORK

The City Water Resilience Framework assesses the resilience of a city to water-based shocks and stresses. It allows a city to identify challenges and opportunities then prioritise future actions. It underpins the overall CWRA process and is the primary tool used during CWRA Step 2 - Assessment and Resilience Profile. The CWRF consists of three rings - dimensions, goals and sub-goals—that describe a holistic model for city water resilience.

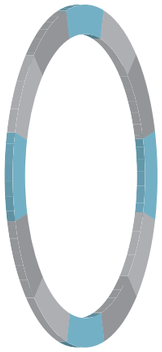
The innermost ring consists of four **Dimensions**, or critical areas for building resilience. Within each dimension are **Goals** that indicate what needs to be achieved in that category. For instance, to build resilience in the area of Leadership and Strategy, our research suggests two key areas—long-term strategic vision and coordinated and collaborative governance. Some goals bridge more than one dimension, suggesting that critical elements of water resilience often fall within multiple areas of influence.

Sub-goals provide additional detail about the critical elements for realizing each goal. Since each place faces unique challenges, solutions appropriate to one city are not necessarily appropriate to another. As a result, sub-goals represent aspirations but do not stipulate specific solutions. For instance, while the framework affirms a need for 'transparent financial decision-making procedures', it allows a variety of strategies and mechanisms for achieving that aim (such as participatory budgeting, regular auditing, legal statutes, etc.) This allows a response based on what might be most appropriate to the local context.

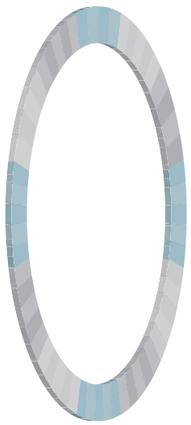
As part of the assesment process **Indicators** are used to assess each subgoal . These are used during the assessment workshops and as a focus for the breakout groups. By answering a series of indicator prompts, a cities can build a picture of their resilience challenges and opportunities. This enables them to identify actions, measure progress over time, and share learning with a global network of partner cities.



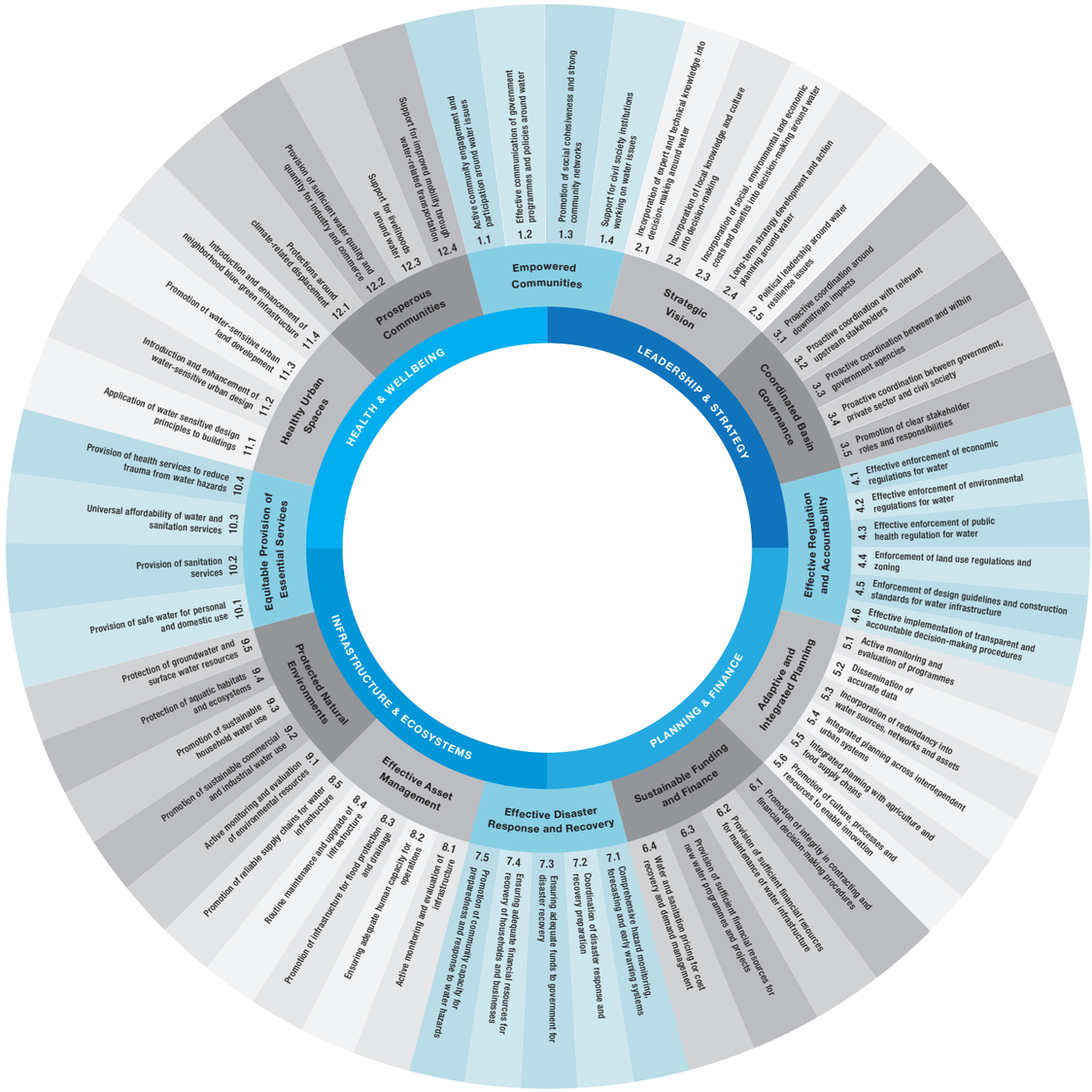
4
DIMENSIONS



12
GOALS



56
SUB-GOALS



The City Water Resilience Framework 2019

OVERVIEW OF CWRA DEVELOPMENT AND ENGAGEMENT WITH HULL

The Living with Water Partnership has been actively involved with the development of the City Water Resilience Approach (CWRA). The timeline below shows an overview of the CWRA development and highlights key stages of engageement and application of the process in Hull.

1 CWRA DEVELOPMENT AND STEP 1 : UNDERSTAND THE SYSTEM

LITERATURE REVIEW
Literature review to identify best practices for building water resilience in cities and available tools and approaches

RESEARCH FIELDWORK
Engagement with stakeholders in Hull and six other cities to identify factors of resilience and local shocks and stresses

ANALYSIS
Analysis of results from global fieldwork to develop the City Water Resilience Approach and tools (CWRF and OurWater)

GLOBAL KNOWLEDGE EXCHANGE (GKE)
Convening event for project partners including Living with Water Partnership, to review progress and discuss factors and approaches to building resilience

CWRA PEER REVIEW
Devleoping CWRA and resilience tools (CWRF and OurWater) to use in cities, based on inputs during GKE and Application in Miami and Cape Town

CWRA DEVELOPMENT AND APPLICATION
Continued refinement of CWRA and resilience tools (CWRF and OurWater). Development and application of CWRA Step 2 in Miami and Cape Town

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb

2018 2019

CWRA FIELDWORK IN HULL AND HALTEMPRICE

2 CWRA STEP 2 : ASSESS WATER RESILIENCE - → FOCUS OF THIS REPORT (SEE OPPOSITE)

COMMENCEMENT OF PLANNING FOR HULL ASSESSMENT PROJECT
Commencement of planning for Step 2 based on application of established process pilioted in Cape Town and Miami

COVID -19 UK LOCKDOWN
Face-to-face workshops and engagement prohibited.
Project on hold
Development of the Our Water tool and mapping of existing LWW programme

DEVELOPMENT OF REMOTE WORKING STRATEGY
Arup working with LWWP to adapt the CWRA process for on-line working including development of new digital materials

RESILIENCE ASSSESSMENT AND VISIONING
Resilience Assessment Workshops and Visioning Workshop are held with LWW stakholders.
First use of the on-line methodology

ANALYSIS
Analysis of assessment results and opoprtunites emerging from the visioning workshop. Formulation of draft roadmap.

WATER RESILIENCE PROFILE
The *Hull Water Resilience Profile* is issued to workshop attendees and other key decision-makers

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar

UK LOCKDOWN #1 UK LOCKDOWN #2

2020 2021

CWRA STEP 2 ENGAGEMENT IN HULL AND HALTEMPRICE

UNPACKING CWRA STEP 2: THE WATER RESILIENCE PROFILE

This report focuses on the application of CWRA Step 2: water resilience assessment preparation of a Water Resilience Profile. The diagram below unpacks this process to show the four stages of application undertaken with Hull and Haltemprice during 2020-2021. Each of these stages is covered by a section of the report.

ASSESSMENT

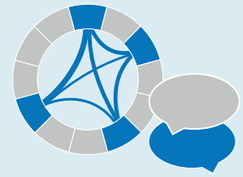
Interactive stakeholder workshop reviewing and scoring all of the sub-goals in the full City Water Resilience Framework to arrive at a baseline water resilience assessment.

▶ Pages 18-27

CHALLENGES

Identifying priority sub-goals and synthesising these into cross-cutting resilience challenges then working with stakeholders to prioritise and refine the challenges.

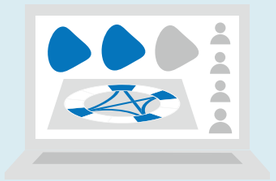
▶ *Pages 28-39*



OPPORTUNITIES

Interactive stakeholder workshop to review the priority challenges, then re-frame these as oportunites. Developing priority opportunites in more detail.

▶ *Pages 40-51*



ROADMAP

Analysing opportunities to identify alignments, interdependencies and relative priorities then create an initial high-level roadmap as a starting point for further participatory planning.

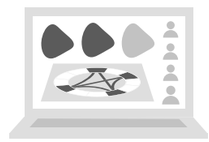
▶ *Pages 52-57*

THE STRUCTURE OF THIS REPORT FOLLOWS THE ABOVE STEPS

2

RESILIENCE ASSESSMENT

This section describes the approach taken to assess water resilience in Hull and Haltemprice and summarises the results. During two interactive on-line workshops, stakeholders assessed each sub-goal within the CWRF, generating an initial resilience profile along with valuable insights to inform challenges and opportunities.



ASSESSMENT OVERVIEW

This section describes the approach taken to assess water resilience in Hull and Haltemprice and summarises the results. During two interactive on-line workshops, stakeholders assessed each sub-goal within the framework , generating an initial resilience profile along with valuable insights to inform challenges and opportunities.

WATER RESILIENCE ASSESSMENT WORKSHOP

The objective of the assessment workshops was to evaluate the resilience of Hull's water system using the City Water Resilience Framework (CWRF) tool. Results create a baseline resilience profile to inform challenge setting and development of context and materials for the visioning and opportunities workshops.

ENGAGING STAKEHOLDERS

Stakeholder mapping was undertaken to encourage the broadest perspective on resilience, across all urban systems. Alongside subject matter experts on resilience, infrastructure, water and environmental management there was a wide range of specialist and generalist stakeholders.

Workshop attendees included local and national government, academia, voluntary and community sector, media, arts and culture, planning, architecture, urban design, emergency response, health, well-being and business.

A workshop briefing pack was sent out before the sessions with an overview of the process, agenda, joining instructions, details of the CWRF, and the indicators that would be addressed by each group on the day.

Requests by some stakeholders to address specific areas of the framework were accommodated where possible and participants were given freedom to move groups on the day if they felt more comfortable in another area.

WORKSHOP DESIGN: ADAPTING THE PROCESS FOR REMOTE WORKING

Due to COVID-19 restrictions during 2020, Arup adapted what has typically been a collaborative, round-table, face-to-face process to an on-line format. A combination of ZOOM and the interactive facilitation tool MIRO were used.

WORKSHOP STRUCTURE

Workshops took place over two days, with over 50 participants attending each session. Each workshop lasted for just under three hours and was structured as follows:

1. ***Welcome and introduction to the CWRF.*** The session began in plenary with a welcome address by LWW, followed by a short presentation of the CWRF development and structure, the process so far in Hull, an overview of the day's agenda and detailed instructions for the assessment process and break-out groups.
2. ***Small group discussions and sub-goal assessment***. Each group focussed on one of the goals, as shown opposite. The groups discussed each sub-goal then provided individual scores. Arup facilitators chaired the discussions and recorded the qualitative scores in MIRO. All discussions and scores were anonymised. See page 22 for more details of how each sub-goal was assesed and Page 23 for the compiled assessment results.
3. ***Plenary and next steps.*** At the end of the session the groups came back together for a short plenary discussion. Next steps in the process were explained.

Stakeholders assessed the whole CWRA framework through a series of interactive breakout sessions.

Each group assessed a minimum of six indicators. As the amount of sub-goals and indicators varies slightly for each goal, certain groups were given additional sub-goals to make up the numbers. These were carefully chosen and were used as an opportunity to gain different perspectives on key sub-goals, particularly those relating to stakeholder engagement. Additional sub-goals were also prepared in case a group should pass more quickly through the assessments and have time to spare. Generally, discussions were lively and the time fast-moving, so completeing the core indicators within the session was the main challenge!

The results from the two days are presented on the following pages. For more details on the workshop agenda, briefing, structure of the groups, and assessment results is included in a separate appendix.

**Note: the sub-goals under Goal 12, 'Prosperous Communities', were spread across the other five groups on Day 1.*

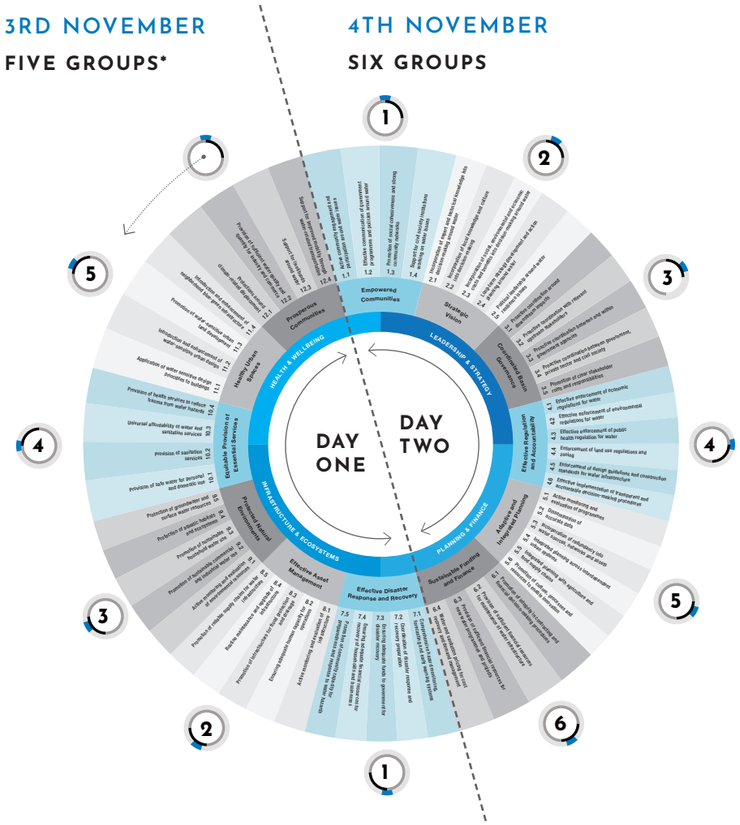
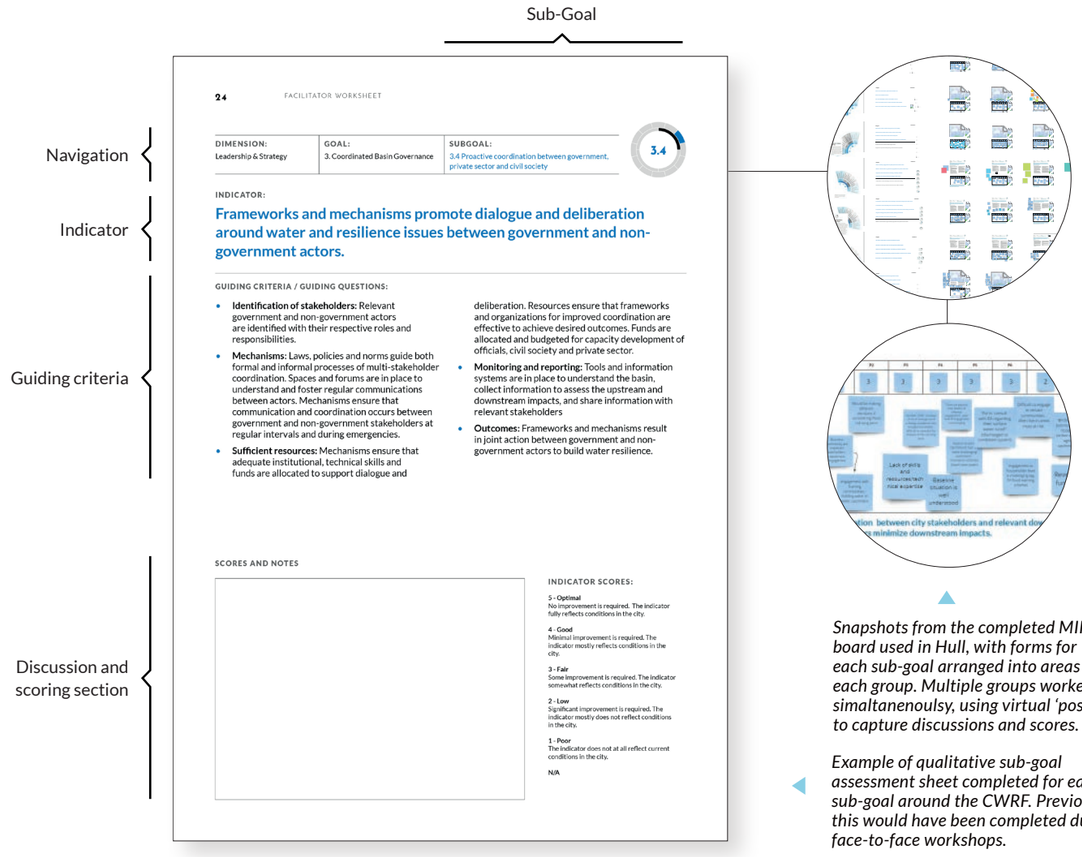


Diagram showing how the 12 Goals were addresed over the two workshops.

ASSESSMENT PROCESS AND RESULTS

Each sub-goal is assessed through group discussion leading to individual qualitative scoring. The CWRF facilitation toolkit contains a sheet for each sub-goal. An example is provided below. Each sheet contains an indicator linked to the sub-goal. The indicator is a normative, aspirational statement against which the current system can be assessed by asking the question: 'To what extent is this statement true for our city? Further information and guiding criteria are presented to support the group discussion and scoring. These are not supposed to be exhaustive and will vary from place to place. Most importatnt is to ensure a context-specific discussion. Typically, fifteen minutes is allowed for each indicator. Key discussion points are noted by the facilitator. Participants are invited to provide an individual score, ranging from 'poor' to 'optimal'. Participants are encouraged to reflect on their own scores in the light of the group discussion, but scores remain individual: group consensus is not required.

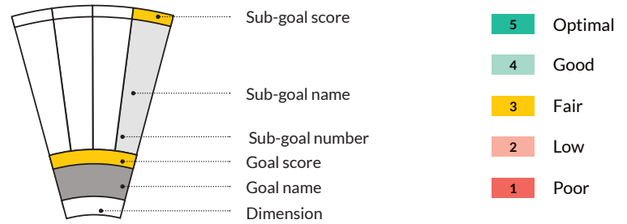
After the workshop average scores for each sub-goal are calculated and compiled to create the overall resilience assessment. A 'consensus score' is also calculated. Overall results from the Hull CWRF assessment are summarised opposite and discussed on the following pages. A record of the workshop and high-level summary of discussions relating to each indicator is included in a separate Appendix.



Snapshots from the completed MIRO board used in Hull, with forms for each sub-goal arranged into areas for each group. Multiple groups worked simaltanenoulsy, using virtual 'post-its' to capture discussions and scores.

Example of qualitative sub-goal assessment sheet completed for each sub-goal around the CWRF. Previoulsy this would have been completed during face-to-face workshops.

How to interpret results of the assessment



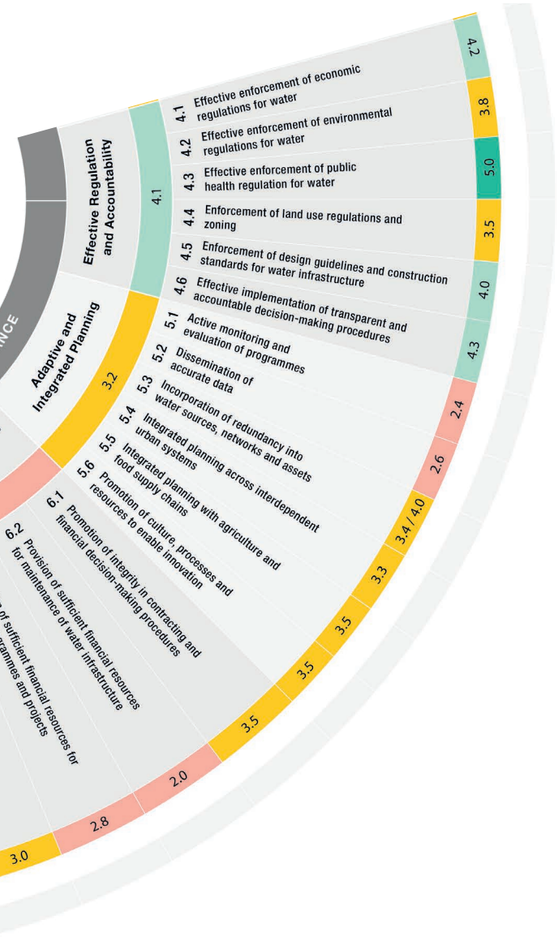
Results from the Hull and Haltemprice Water Resilience Assessment, **qualitative scoring**

LEADERSHIP & STRATEGY

Leadership and governance approaches for water resilience and emergency response are shifting from top-down approaches to more of a two-way relationship between communities, wider stakeholders and government. Hull is increasing engagement on water resilience by forming partnerships between government, private sector and community stakeholders, with LWW taking the lead. Integration of community priorities, voice and culture within strategy and decision-making is acknowledged as a challenge, linking to the Empowered Communities goal. It is noted that the upstream stakeholder engagement frameworks and mechanisms are more established around catchment-scale planning There is opportunity to extend this outside water and environment sectors to other sectors and communities, particularly within urban areas, supporting actions across other dimensions. It is acknowledged that political leadership for water resilience could be strengthened at national level. There is an opportunity for Hull to lead on influencing short and long term policy to build local resilience. There is an opportunity to accelerate cross-agency collaboration to value wider social, environmental and economic benefits and incorporate these into strategic decision-making.

PLANNING & FINANCE

Regulation and accountability is in place for provision of core services and infrastructure around water The overall decision-making processes and design standards as a whole are clear and in place. As expected, water and public health regulations are stringent and the water sector is heavily regulated and incentivised in this area. There are high levels of trust in water quality, with some of the highest public health standards globally, supported by good resourcing and processes. Design standards for water assets and flood defences generally take into account shocks and stresses. There is a need for further design standards, regulation and enforcement to drive forward water sensitive urban design and nature-based solutions across the catchment, supporting Goal 11 in particular. Large quantities of data are available, but there is a need for coordination, translation and dissemination of data for different audiences and user groups to facilitate innovation, action and culture change. Cross-sector planning is generally strong but there is opportunity for closer collaboration for example with highways, public health and communities sectors. Challenges remain in terms of aligning different projects and programmes and priorities to secure cross-sector funding for delivery of water resilience.



1 Poor 2 Low 3 Fair 4 Good 5 Optimal

INFRASTRUCTURE & ECOSYSTEMS

The city scores highly for provision of essential services around water and sanitation for both communities and industry. As a result these can be 'out-of-sight, out-of-mind', which impacts on perceived value and sustainable behaviours around water. Balancing affordability of water services with pricing that recognises and values water remains a challenge. Strong coordination and collaboration for emergency response exists within Hull, led by the Local Resilience Forum, supported by innovation led by the University of Hull These cross-sectoral collaborations could be extended beyond response and recovery towards planning designing and building-back-better, supporting other Goals. Increasing community engagement is proving to have a positive influence, but in general community preparedness is still low and local capacity-building is needed, supported by long-term finance and resources. Enforcement of environmental regulation, particularly around agricultural pollution and water source protection, remains a challenge. The need for environmental net gain could drive forward alternative water sensitive solutions, supporting other goals. Accurate mapping and monitoring of water infrastructure, embracing operational technology is key. Opportunities for jobs, skills, training and new business in water resilience, asset management and maintenance could strengthen local supply chains, build workforce resilience and support livelihoods.

HEALTH & WELLBEING

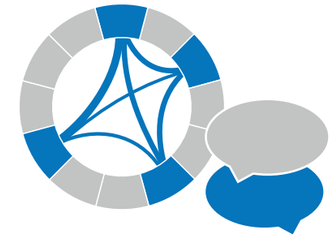
This is a broad cross-cutting dimension and one that had a wide range of scores. Whilst fundamental needs are met in terms of public health, as discussed under the other dimensions, this dimension recognises the wider potential impact on health and well-being through water sensitive design, place-making, supporting livelihoods and empowering communities. The COVID-19 pandemic has highlighted how these challenges provide an opportunity to strengthen Hull's response to shocks and stresses, building on the successful response across the city, particularly in terms of community engagement and participation. Positive scores for promotion of water sensitive solutions through design standards and planning are offset by recognition of the need to find mechanisms to drive this into practice on the ground (links to Goals 4 and 5). Recent successes within the city centre need to be balanced with smaller scale interventions at community-scale, with a strong focus on retro-fit. There is an opportunity for increased awareness and support for livelihoods around water, in particular relating to jobs, skills and business. The discussion around mobility was broadened to acknowledge opportunities for better alignment between water, highways, and public health. A need to focus on the most climate-disadvantaged communities was acknowledged. A strong theme emerged around participatory engagement and communication to understand community assets and priorities linked to Goals 1 and 2.

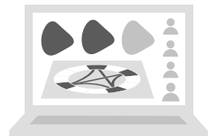
1 Poor 2 Low 3 Fair 4 Good 5 Optimal

3

CHALLENGES

This section describes the approach taken to move from the assessment results to identifying a series of cross-cutting challenges emerging from the analysis. It describes how stakeholders were involved in reviewing, prioritising and shaping these challenges in preparation for the visioning and opportunities workshop.





FROM ASSESSMENT TO CROSS-CUTTING CHALLENGES

This section describes the approach taken to move from the assessment results to identifying a series of cross-cutting challenges emerging from the analysis. It describe how stakeholders were involved in reviewing and prioritising, shaping these challenges in preparation for the visioning and opportunities workshop.

CHALLENGE SETTING

Using the assessment results as a starting point, Arup and the LWW team synthesised a range of challenges from across the framework. The challenges emerged in response to the assessment results.

Starting with priority sub-goals (poor and low scoring) these were clustered to create a series of cross-cutting challenge areas. This took place through a series of iterations. To provide another level of insight and test this analysis, group facilitators from the assessment workshop clustered key comments and insights from the assessment of sub-goals relating to the challenge areas.

This process was undertaken through remote working and on-line collaboration within the MIRO platform. Through further interactive sessions, layering the priority sub-goals with qualitative evidence and insights from the workshop, fifteen challenges emerged. A snapshot of the final challenge setting analysis is shown opposite. This stage focussed on the main connections to ensure that all of the priority (lower scoring) areas were addressed

The challenges can be arranged loosely around the wheel. However, it was acknowledged that most of the challenges are inter-related and some overlap occurs. For each challenge there are more interdependencies than those shown. This fact was embraced since during the subsequent survey it would enable stakeholders a range of different framings to respond to, depending on their experience, interest and the 'lens' through which they approach resilience.

ADAPTING AN INTERACTIVE PROCESS FOR REMOTE WORKING

The review and prioritisation of the long-list of challenges has typically taken place as part of a face-to face workshop. Following voting and selection, groups would be assigned a challenge to develop in more detail. In adapting the process to remote working, it was decided to use an on-line survey to reduce the time in on-line workshops. This had the advantage of generating more feedback since participants were able to comment in detail on more than one challenge.

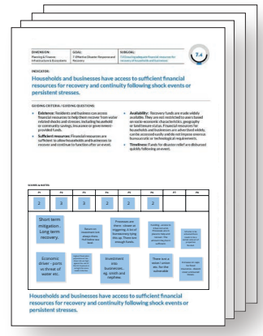
PRIORITISING THE CHALLENGES - ON-LINE SURVEY AND FEEDBACK

A briefing was sent out to all participants from the assessment workshop with the preliminary assessment results and a summary of the fifteen challenges. Participants were asked to rank the three challenges that they would most like to focus on. For each of these they were invited provide further feedback on the barriers, enablers and existing ongoing initiatives relating to these. Participants were free to comment on more than three if they wished. The results from the survey were compiled and the top six challenges selected.

SHAPING THE CHALLENGES

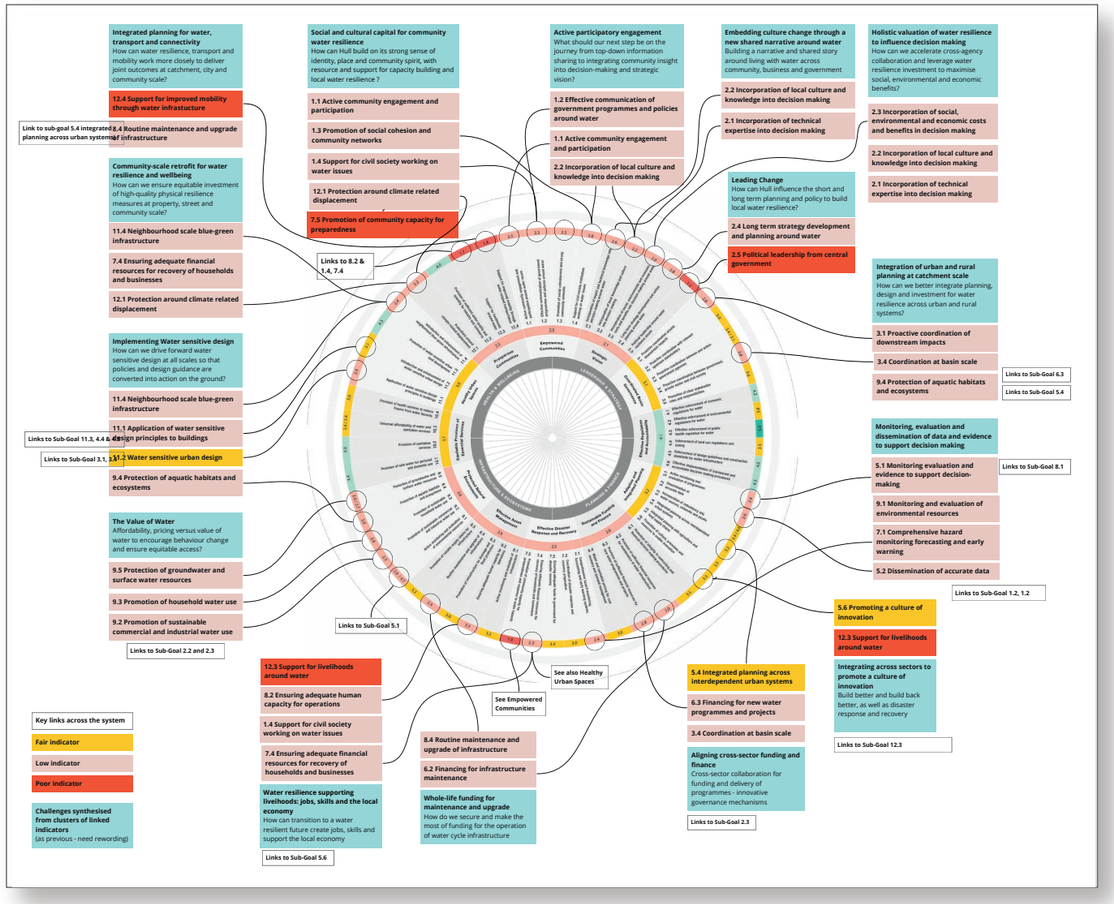
For each of the six challenges, the team compiled survey feedback alongside a further review of discussions from the assessment workshop. This evidence was used to compile notes on the barriers and enablers in preparation for the visioning and opportunities workshop. See pages 31 -33 for more details of the process and pages 34-39 for a summary the six priority challenges.

- **7.5** Promotion of community capacity for preparedness and response to local hazards
- **1.1** Active community engagement and participation
- **1.2** Effective communication of government programmes and policies around water
- **1.4** Support for civil society institutions working on water issues
- **2.2** Incorporation of local knowledge and culture intro decision-making
- **5.4** Accurate dissemiation of data and information



Reviewing overall results and clustering prioirty sub-goals > Reviewing insights from sub-goal assessments >> Synthesising a cross-cutting challenge

Challenge 02
Pro-active and resourced participatory engagement



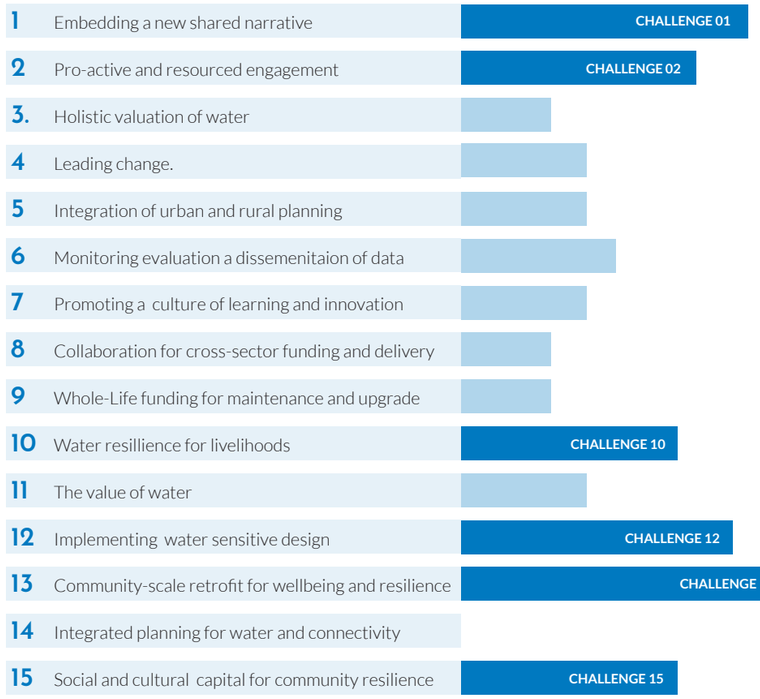
***Top:** Example of how cross-cutting challenges were synthesised from the overall assessment results. **Above:** Extract from the interactive MIRO board showing development of the fifteen challenges for further prioritisation and development with stakeholders.*

PRIORITISING AND REFINING THE CHALLENGES

1	**Embedding a new shared narrative and culture change around water resilience**	How can we build on Hull's unique water story to embed new awareness and buy-in for water resilience in the culture of the city, from community and business to government?
2	**Pro-active and resourced participatory engagement**	What is our next step be on the journey from information sharing to proactive and resourced engagement that integrates community insight into strategy and decision-making?
3	**Holistic valuation of water resilience measures to influence decision-making**	How can we accelerate cross-agency collaboration and leverage water resilience investment to maximise social, environmental and economic benefits?
4	**Leading Change**	How can Hull influence short and long term planning, policy and investment at regional and national level to build local water resilience?
5	**Integration of urban and rural planning at catchment scale**	How can we better integrate planning, design and investment for water resilience across urban and rural systems?
6	**Monitoring, evaluation and communication of evidence to support decision making and action**	How can we monitor, evaluate and communicate the impact of water resilience programmes and disseminate data in a way that is relevant to different users and helps them to drive change?
7	**Integrating across sectors to promote a culture of learning and innovation**	How can we innovate beyond disaster response and recovery to build-back better and in future to plan, design and build better. and more resilient places?
8	**Integrated planning and collaboration for cross-sector funding and delivery**	How can we encourage cross-sector collaboration for funding and delivery of programmes and build innovative governance mechanisms?
9	**Whole-life funding for maintenance and upgrade of water infrastructure**	How do we secure and make the most of funding for the operation of water cycle infrastructure including upgrade and build-back better?
10	**Water resilience for livelihoods: jobs, skills and the local economy**	How can the transition to a water resilient future create and sustain jobs, skills, and lifelong learning, improving livelihoods and supporting the local and regional economy?
11	**The value of water**	How can we balance affordability and pricing with increased awareness of the value of water to encourage behaviour change and ensure equitable access?
12	**Mainstreaming and implementing water sensitive design**	How can we create a culture and delivery environment where high-quality water sensitive design is expected as standard and delivered on the ground, from homes, to workplaces, public realm and landscapes?
13	**Community-scale retrofit for water resilience and well-being**	How can we ensure equitable investment of high-quality physical resilience measures at property, street and community scale?
14	**Integrated planning for water, transport and connectivity**	How can water resilience, transport and mobility work more closely to deliver joint outcomes at catchment, city and community scale?
15	**Social and cultural capital for community water resilience**	How can Hull build on its strong sense of identity, place and community spirit, with resource and support for capacity building and local water resilience?

***Above**: Table showing the fifteen challenges sent out to stakeholders and the six selected for further development (highlighted in blue)*

The project team developed fifteen challenges based on analysis of qualitative indicators. From these, stakeholders identified six challenges to address in the visioning workshop, providing further feedback and insights into barriers and enablers. The six priority challenges are summarised on pages 34-39.

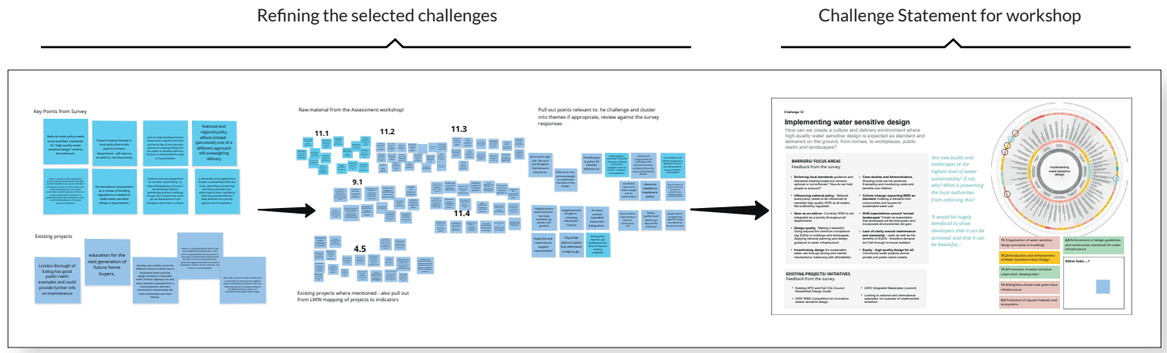


CHALLENGE 10

'Water resilience isn't something that is taught in schools/colleges. We live so close to so much water but it's thought that the only livelihood in water is fishing…'

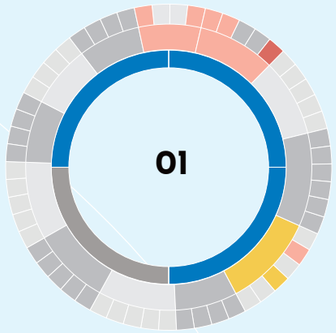
CHALLENGE 06

'Many different methods for monitoring and evaluating currently, at different scales, carried out by a range of partners. These may not be fit for the city scale and may not be up to date. Also, they are not brought together into a single location so different partners can understand what is being captured or what data is missing.'



***Top**: Results from the online survey with examples of further qualitative feedback realting to the individual challenges. **Above:** Extract from the interactive MIRO board showing development of a prioritised challenge follwing stakholder feedback*

CHALLENGE 01



Embedding a new shared narrative and culture change around water resilience

HOW CAN WE BUILD ON HULL'S UNIQUE WATER STORY TO EMBED NEW AWARENESS AND BUY-IN FOR WATER RESILIENCE IN THE CULTURE OF THE CITY, FROM COMMUNITY AND BUSINESS TO GOVERNMENT?

BARRIERS AND FOCUS AREAS

Key points drawn from the assessment and survey

- **How to turn water resilience into a positive story?** Water culture as an asset. Placing water resilience alongside other agendas, such as the green recovery, as a positive part of Hull and ERYC's identity and long-term future.
- **'Culture change takes a long time and requires sustained commitment resources.'** Commitment currently varies between organisations and sectors.
- **Disconnect between national policy and local context.** Local experience, culture and narratives not incorporated into national policy development.
- **Relating water to people's everyday lives.** Especially vulnerable communities. 'How do we make the water story 'real' for residents struggling merely to 'get by'?' .
- **Relating water across different cultures and demographics**. Reaching out to ethnic minorities, and 'transient' communities?
- **Reaching the next generation early** Water not currently 'front of mind' for children, young people and students. Not seen as a key part of thier future.
- **Establishing water as a priority alongside other challenges** such as Brexit, post-COVID recovery and climate action. A challenge but also an opportunity to align messaging.
- **Influencing leadership** insufficient emphasis placed on water resilience at national level - need compelling narratives and a culture shift to secure long-term planning and support for local resilience
- **'Water is an assumed right**' Costs to business and communities are relatively low. Need new shared narratives around the value of water.

This challenge relates to the following sub-goals

1.1 - Active community engagement and participation

1.4 – Support for civil society institutions working on water issues

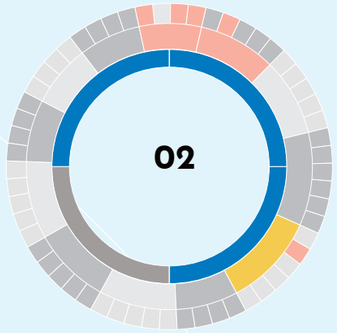
2.1 - Incorporation of local culture and knowledge into decision making

2.2 – Incorporation of local culture and knowledge into decision making

5.2 – Dissemination of accurate data

5.4 - Integration of planning across interdependent urban systems

CHALLENGE 02



Pro-active and resourced participatory engagement

WHAT IS OUR NEXT STEP ON THE JOURNEY FROM INFORMATION SHARING TO PROACTIVE AND RESOURCED ENGAGEMENT THAT INTEGRATES COMMUNITY INSIGHT INTO STRATEGY AND DECISION-MAKING?

BARRIERS AND FOCUS AREAS

Key points drawn from the assessment and survey

- **Moving beyond regulatory requirements for engagement.** Not enough resources are made available as part of regulatory and policy frameworks to support effective engagement despite local commitment and potential.
- **Building on existing community strengths** . Hull has strong social networks and high levels of community collaboration during and after major events. During COVID the response has been successful. How to build on this to engage between events for long-term water resilience and preparedness?
- **Committed long-term resources.** Long-term revenue funding for non-physical measures and engagement can be difficult to secure. Engagement often linked to specific capital schemes or programmes.
- **Two-way communication.** Moving from top-down information sharing and 'open-phone lines' to active participation
- **Two-way accountability.** Encouraging community ownership and responsibility over water resilience, backed up with accountability from the public and from the water sector.
- **Aligning water resilience with other priorities and needs.** Water can fall away as a priority when communities and businesses are faced with other day-to-day challenges.
- **Active listening. '**Through trained volunteers actively listening to household experiences, people gain confidence to open up about their fears and invite help.'
- **Relating water to lived experience across different cultures and demographics.** Reaching out to ethnic minorities, vulnerable and 'transient' communities.
- **Strengthening links and outreach between children, young people and academia.**

This challenge relates to the following sub-goals

1.1 - Active community engagement and participation

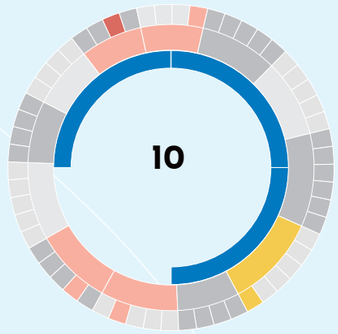
1.3 – Promotion of social cohesion and community networkss.

1.4 – Support for civil society institutions working on water issue

2.2 – Incorporation of local culture and knowledge into decision making

5.2 – Dissemination of accurate data

CHALLENGE 10



Water resilience for livelihoods: jobs, skills and the local economy

HOW CAN THE TRANSITION TO A WATER RESILIENT FUTURE CREATE AND SUSTAIN JOBS, SKILLS, AND LIFELONG LEARNING, IMPROVING LIVELIHOODS AND SUPPORTING THE LOCAL AND REGIONAL ECONOMY?

BARRIERS AND FOCUS AREAS

Key points from the assessment and survey

- **Lack of specialist skills -** lack of knowledge and skills for utilities, flood risk and blue green infrastructure.
- **Business and investment deterred by flooding:** businesses may feel deterred from expanding or even choosing to keep business within Hull because of the financial burden a flood event would bring.
- **Career pathways:** Water resilience is not taught in schools and is hidden in career guidance. Clear pathways required showing routes to 'livelihoods around water.'
- **Attracting and retaining skills:** Reliance of too few people for operation and maintenance.
- **Training:** Attracting and retaining skills. Reliance on too few people for specialist operational knowledge.
- **Wider influence:** Continue to work with the Flood Innovation Centre and help extend its reach outside of the region, raising the profile of Hull and East Riding.
- **Imported water resilience products:** business community doesn't recognise the economic benefits of producing products within Hull.
- **Business community**: doesn't recognise the economic and financial benefits of producing products, services within this area. Need to raise awareness of water resilience as an opportunity for innovation and enterprise.
- **No clear demand:** 'water resilience is optional'.
- **Need to advertise and create roles** which turn Hull's flooding into a opportunity for employment and regeneration.

This challenge relates to the following sub-goals

12.3 Support for livelihoods around water

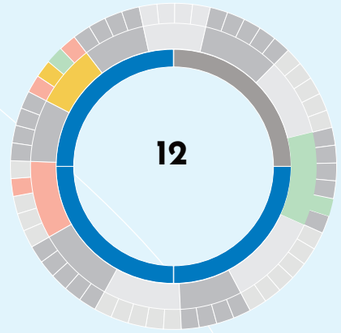
1.4 Support for civil society working on water issues

7.2 Ensuring adequate financial resources for recovery of households and businesses

8.2 Ensuring adequate human capacity for operations

5.6 Promoting culture, processes and resources to enable innovation

CHALLENGE 12



Mainstreaming and implementing Water Sensitive Urban Design

HOW CAN WE CREATE A CULTURE AND DELIVERY ENVIRONMENT WHERE HIGH-QUALITY WATER SENSITIVE DESIGN IS EXPECTED AS STANDARD AND DELIVERED ON THE GROUND, FROM HOMES, TO WORKPLACES, PUBLIC REALM AND LANDSCAPES?

BARRIERS AND FOCUS AREAS

Key points from the assessment and survey

- **Enforcing local standards guidance and standards** existing locally but remains optional or not enforced. 'How do we hold people to account?'
- **Influencing national policy.** National scale policy needs to be influenced to mandate high-quality WSUD at all scales. Not sufficiently regulated.
- **Seen as an add-on.** Currently WSUD is not integrated as a priority throughout all departments.
- **Design quality** 'Making it beautiful' Going beyond the minimum compliance (e.g. SUDs) in buildings and landscapes. Applying emerging national planning and design guidance around place-making and design quality to water infrastructure.
- **Incentivising design** for sustainable water use through pricing and market mechanisms, balancing with affordability.
- **Case-studies and demonstrators.** Showing what can be achieved and demonstrating the value of WSUD. Evaluating and monitoring costs and benefits over asset lifetime.
- **Culture change: getting to a place where** WSUD is expected as standard. Creating a demand from communities and buyers for sustainable water use.
- **Shift expectations around 'normal landscapes'** Create an expectation that landscape will be blue-green and incorporate environmental net gain.
- **Lack of clarity around maintenance and ownership** - costs as well as the benefits of SUDS - therefore demand isn't fed through to house builders.
- **Equity - high quality design for all.** Community-scale projects across private and public sector assets in addition to high-quality scheme in city centre.

This challenge relates to the following sub-goals

11.1 Application of water sensitive design principles to buildings

11.2 Introduction and enhancement of WSUD

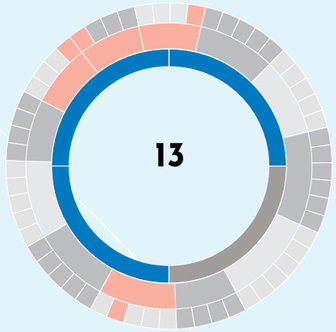
11.3 Promotion of water-sensitive urban land development

11.4 Neighbourhood-scale green-blue infrastructure

9.4 Protection of aquatic habitats and ecosystems

4.5 Enforcement of design guidelines and construction standards

CHALLENGE 13



Community-scale retrofit for water resilience and wellbeing

HOW CAN WE RETROFIT EXISTING COMMUNITIES FOR WATER RESILIENCE AND WELL-BEING, ENSURING EQUITABLE INVESTMENT AND HIGH-QUALITY DESIGN AT PROPERTY, STREET AND NEIGHBOURHOOD SCALE?

BARRIERS AND FOCUS AREAS

Key points from the assessment and survey

- **Active listening and co-creation.** There is an over emphasis on building not listening 'You do it by talking to people about what they want and responding'. Frame water in a way that relates to lived experience.
- **Community-led neighbourhood-scale** strategies require capacity building in understanding of flood risk and water cycle in order to appraise strategies**.**
- **Clarity around asset ownership and operation.** Perceived lack of timely response lead to disengagement and lack of community buy-in. Lack of clarity and funding for long-term maintenance reduces uptake of blue-green measures.
- **High-quality pilots and demonstrator projects** rolled out and shared to maximise uptake and buy-in. New build and public projects should use WSUD as standard to demonstrate benefits.
- **Community understanding of the function, operation and benefits of small-scale measures.** Implementation/ take up of water butts, permeable paving and property level features is low.
- **Climate equity -** focus on existing and vulnerable communities as well as larger developments and city centre . Consider areas of future climate vulnerability.
- **Cross-sector collaboration - identifying multi-benefit schemes,** in particular during post-COVID green recovery - active travel, community food security etc.
- **Insurance and building back better.** Funding, policy mechanisms and capacity building for post-event retrofit and improvement.
- **National funding and policy favours larger capital projects -** misaligned with local-scale longer-term investments.

This challenge relates to the following sub-goals

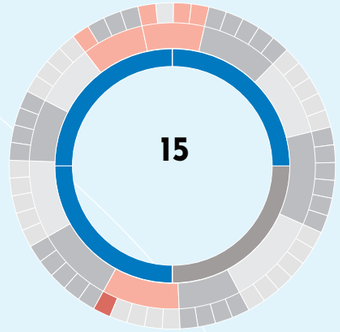
1.4 Support for civil society working on water issues

7.4 Ensuring adequate financial resources for recovery of households and businesses

11.4 Neighbourhood scale blue-green infrastructure

12.1 Protections around climate-related displacement

CHALLENGE 15



Social and cultural capital for community water resilience

HOW CAN HULL BUILD ON ITS STRONG SENSE OF IDENTITY, PLACE AND COMMUNITY SPIRIT, WITH RESOURCE AND SUPPORT FOR CAPACITY BUILDING AND LOCAL WATER RESILIENCE?

BARRIERS AND FOCUS AREAS

Key points from the assessment and survey

- **Moving beyond regulatory requirements for engagement.** Not enough resources are made available as part of regulatory and policy frameworks to support effective engagement despite local commitment and potential.
- **Active listening.** 'Through trained volunteers actively listening to household experiences, people gain confidence to open up about their fears and invite help.'
- **Building on existing community assets.** Hull has strong social networks and community spirit. High levels of community engagement and collaboration during/after major events, and during COVID. How to build on this for long-term water resilience and preparedness?
- **Resources and capacity-building** Long-term revenue funding for non-physical measures can be difficult to secure within water sector.
- **Ownership and accountability for water resilience.** Encouraging a sense of community ownership and responsibility over water resilience, backed up with resources.
- **Aligning water resilience with other priorities and needs.** Water can fall away as a priority when communities and businesses are faced with other day-to-day challenges.
- **Aligning across sectors** pooling scarce resources to identify and build on social and cultural capital within communities.
- **Resilience is place-specific .** Recognising local needs and resources, especially of more vulnerable communities.
- **Enabling people to stay.** Strong sense of identity and attachment to place in vulnerable communities. People want to stay, but need support to do so.

This challenge relates to the following sub-goals

7.5 Promotion of community capacity for preparedness

1.1 Active community engagement and participation

1.3 Promotion of social cohesion and community networks

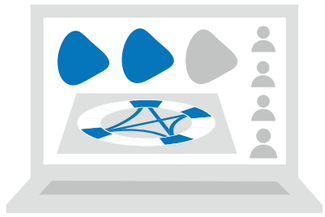
1.4 Support for civil society working on water issues

12.1 Protection around climate related displacement

4

OPPORTUNITIES

This section describes the process of moving from challenges to opportunities. Participants came together for an interactive on-line 'Visioning Workshop' during which groups refined the challenges, then re-framed these to generate and develop a range of opportunities for a water resilient Hull and Haltemprice.



VISIONING AND OPPORTUNITIES

Following the assessment and challenges setting outlined in the previous sections, participants came together for an interactive on-line 'Visioning Workshop'. Groups refined the challenges, then re-framed these to generate and develop a range of opportunities for a water resilient Hull.

THE VISIONING WORKSHOP

The objective of the visioning workshops was to review the challenges selected by stakeholders and develop these into opportunities that could be shaped into the high level roadmap.

ENGAGING STAKEHOLDERS

All invitees and paprticipants from the assessment and challenge-setting process were invited to the visioning workshop, including those unable to attend the previous activities. Over 50 participants attended the on-line workshop.

Briefing had been given at the previous events. Agenda and joining instructions were sent out before workshop. Based on the survey responses, participants were, where possible, placed in groups aligning with their choices and responses to the challenge-setting. Participants were given freedom to move groups on the day if they felt more comfortable in another area.

ONLINE WORKSHOP DESIGN: ADAPTING FOR ONLINE WORKING

Adapting this workshop to on-line working was a challenge and new territory for the team. This is typically a highly interactive, face-to-face, full-day event. The aim is for a more creative session following the more structured assessment process. Careful consideration was given to the design of the MIRO workspace to provide the right level of structure for capturing and developing ideas whilst allowing free-flowing discussion and generation of ideas. Due to the logistics of licenses, software and format, Arup facilitators captured the ideas and insights, assisted by a LWW co-facilitator.

WORKSHOP STRUCTURE

The agenda for the 3 hour on-line session is shown opposite. As with the assessment workshop this consisted of introductory sessions providing context, a re-cap of the process so far, the challenge setting results and detailed instructions for the breakout sessions. Group sessions comprised three steps (See Page 44)

1. Reviewing and refining the challenge,
2. Re-framing challenges as opportunities, and
3. Developing two opportunities in more detail

CHALLENGES TO OPPORTUNITIES

Of the three steps perhaps the most important, and the most difficult to facilitate in this on-line format, was Step 2 : translation of the challenge into opportunities, distilling two opportunities from a array of free-flowing ideas and 'visioning' within a short space time. A loose process was proposed to facilitate this (see opposite) and in general this worked well. On reflection this important intermediate stage is an area that would have benefited from more time.

FEEDBACK AND LEARNING

In both sessions, The reduced opportunity for reflection and sharing between groups, and informal sharing and de-brief, over coffee or a lunch, was perhaps the most noticeable impact of the on-line format. Despite the challenges of translating a highly interactive process to a digital context, the feedback was positive. Participants were generous and engaged during the sessions. The workshop was described as open, discursive, interactive and 'emergent': all important objectives for this collaborative process.

HULL CITY WATER RESILIENCE VISIONING WORKSHOP AGENDA

THURSDAY 26TH NOVEMBER 2020

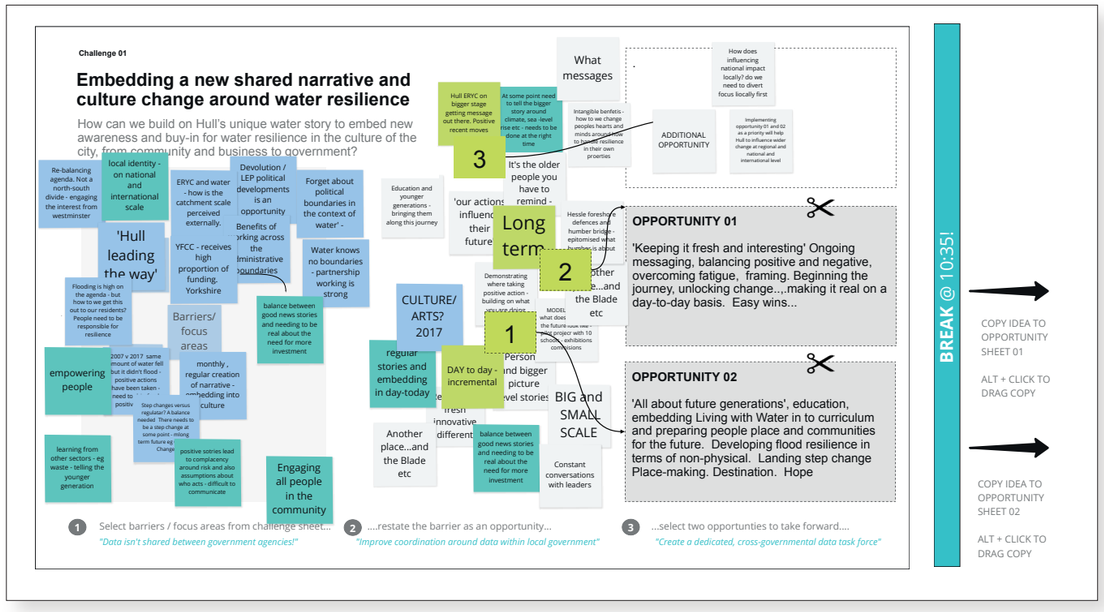
TIME	ACTIVITY & DESCRIPTION
09.25	**Welcome and Introductions**
09.30	**Re-cap: Resilience Assessment and Challenge Setting**
09.40	**Introducing the challenges and group sessions**
09.50	**Join breakout rooms and introductions**
10.00	**Responding to the Challenges: opportunities and interventions** Interactive sessions in break out rooms Six groups, each address one challenge Groups identify opportunities and interventions
10.35	**Break**
10.45	**Develop interventions** Interactive session in break out rooms Each group develops two interventions in more detail
12.15	**Break**
12.25	**Feedback and discussion** Interventions shared in main room and brief plenary discussion
12.40	**Next steps**
12.45	**Close**

'As a group, we agreed we want to meet again to continue the discussion - it was that good, productive, and energising. Thank you.'

'I found it useful and discursive. It was also good to meet some people I've heard of but not met before.'

'It was an emergent process which is fantastic!'

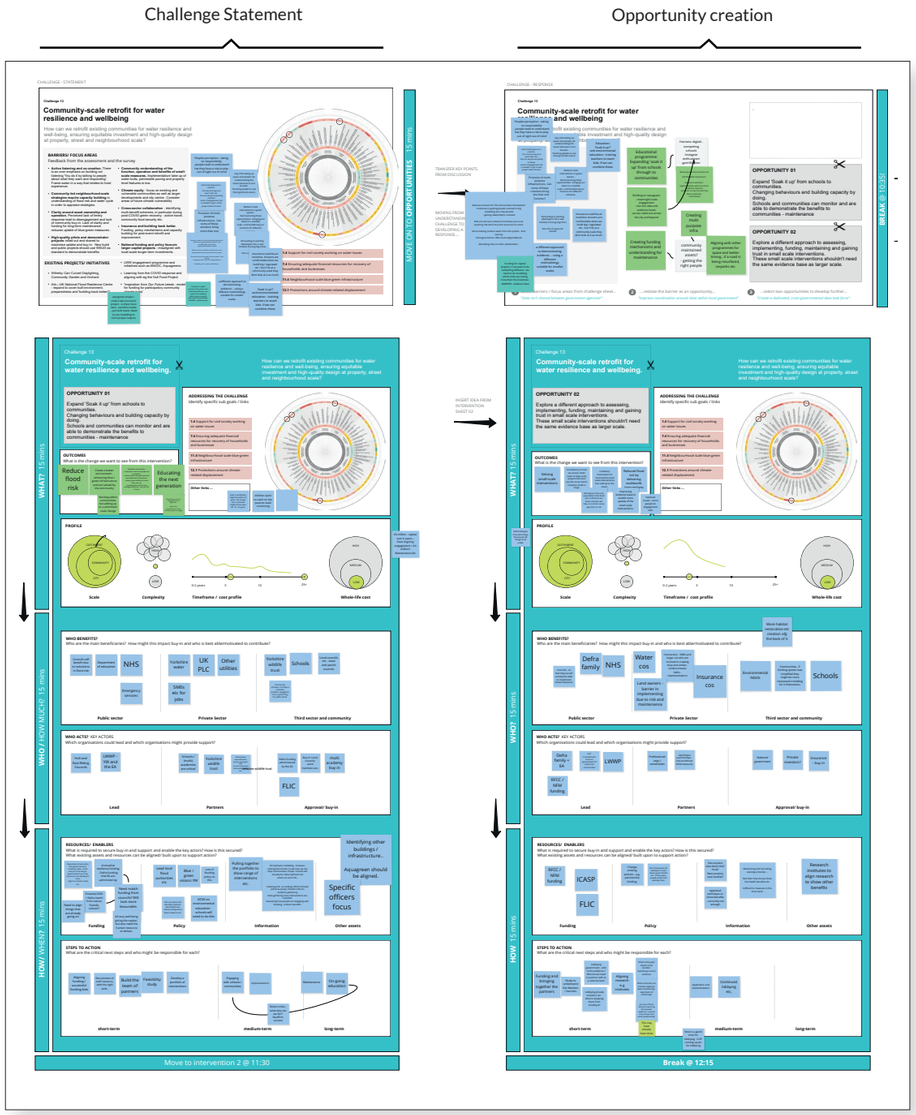
'Upstreaming - visioning - what we want - I love that there is synergy around leadership and this as a catalyst to whole systems change in how we do things - and in in a systems way!'



Above: *Example of a MIRO worksheet in progress during the interactive ZOOM call. A semi-structured process for capturing discussions as groups moved from the challenge to brainstorming opportunities. Ideas for two key opportunities were were captured and taken forward for further development in the next session. See page 44 for an overview of the full MIRO workspace.* ***Top Left:*** *The workshop agenda.* ***Top Right:*** *Feedback from attendees captured from the visioning workshop 'chat' during the final plenary session.*

FROM CHALLENGES TO OPPORTUNITIES

During the workshops six groups addressed a particular challenge. Through a series of interactive sessions within the on-line MIRO space groups first reviewed and refined the challenge, then brainstormed a range of possible opportunities before choosing two of these to take forward for further development.



Snapshot from the on-line interactive MIRO board taken during the workshop. This shows the overall collaborative working space replicated for each the six breakout groups. This was a semi-structured process, with the prioirty being to guide and capture discussions rather than necessarily to complete all of the sections. Each of the groups varied slighlty in the way that they used the space, but all groups generated a wide range of insights and ideas to refine the opportunites.

CHALLENGES	OPPORTUNITIES
Embedding a new shared narrative and culture change around water resilience How can we build on Hull's unique water story to embed new awareness and buy-in for water resilience in the culture of the city, from community and business to government?	Developing a shared narrative and resilience roadmap. Agreeing the direction of travel, starting now and keeping it fresh. Long term. Growing narrative and culture change based on a shared vision for long term future and embedding in everyday life.
Pro-active and resourced participatory engagement What is our next step be on the journey from information sharing to proactive and resourced engagement that integrates community insight into strategy and decision-making?	Establishing and resourcing a citizens participatory engagement forum supported by spaces, networks and access to information. Expanding the programme of events and engagement exploring the role and value of water and how this relates to other agendas.
Water resilience for livelihoods: jobs, skills and the local economy How can the transition to a water resilient future create and sustain jobs, skills, and lifelong learning, improving livelihoods and supporting the local and regional economy?	Developing desirable and accessible local pathways to training, skills and jobs in water resilience. Developing new business and innovation in water resilience. Supporting local economy whilst exporting products and services.
Mainstreaming and implementing water sensitive design How can we create a culture and delivery environment where high-quality water sensitive urban design (WSUD) is expected as standard and delivered on the ground, from homes, to workplaces, public realm and landscapes?	Lobbying for and achieving structural change to make WSUD easy and the norm, supported by demonstrators and evidence on the ground. Creating public acceptance and demand for WSUD.
Community-scale retrofit for water resilience and wellbeing How can we retrofit existing communities for water resilience and wellbeing, ensuring equitable investment and high-quality design at property, street and neighbourhood scale?	Expand the 'Soak it up' SUDs programme from schools to communities, aligning with the green-blue masterplan. Evidence and delivery mechanisms for small-scale interventions.
Social and cultural capital for community water resilience How can Hull build on its strong sense of identity, place and community spirit, with resource and capacity building for local water resilience and wellbeing?	Aligning water with existing community assets and priorities Increase visibility and understanding of water infrastructure assets.

***Above**: Table the six challenges and the opportunities that emerged in response to these during the Visioning Workshop. Each opportunity is summarised further on pages 46-51*

are

CHALLENGE 01 | OPPORTUNITIES

Embedding a new shared narrative and culture change around water resilience

The two opportunities reflect the short term, immediate nature of this challenge, and the long term approach required to embed culture change. It is both the enabling first action and the ultimate desired outcome. A key opportunity discussed during the workshop was the visibility, identity and wider influence of Hull on the national and international map. It was felt that the pathway to this was to focus first on building a shared narrative and strong local consensus that would then support wider engagement.

1a

Developing a shared narrative and resilience roadmap. Agreeing the direction of travel, starting now and keeping it fresh.

Continuing steps in developing a shared narrative. Building consensus around the shared agenda and vision. Reviewing and developing the opportunities and mapping these existing LWW actions and partner programmes and activities. Identifying resources and plan to develop the overall roadmap and unlock the other opportunities.

Outcome

- Narrative, mandate and resources for LWW team and partners to develop the resilience roadmap and implement first actions.
- Map and demonstrate alignment with existing programmes, drivers and events such the as the COP26 UN Climate Summit.
- More detail for short term road map 0-2 years with an adaptive plan going forwards.

Timeframe

- Immediate start with short term impacts to help unlock the other oportunities.

Dependencies

- A key enabling action and first step to planning and resourcing the overall roadmap, enabling the other opportunities, particularly 2a and 2b as next steps.

1b

Growing long term narrative and culture change based on a shared vision for the future and embedding ‘Living with Water’ in everyday life

Developing a sense of destination, hope and daring to dream about the future of Hull and Haltemprice. Exploring plausible futures and landing step change into current culture and decision-making, aligning with other key narratives. Embedding Living with Water into curriculum and daily life. Preparing people, place and communities for the future.

Outcome

- Living with Water feels normal and taking action for water resilience is easy and normal.
- Long term future scenarios are understood and embedded in local decision making, general culture and way of life.
- Everyone understands what they can do and how they fit in to the water story.

Timeframe

- Medium - Long term. Some of this will be about generational shifts and system change.

Dependencies

- This opportunity will be unlocked gradually. It is dependant on the other opportunities. It will emerge alongside them, over time as the value of water resilience actions are increasingly understood and evidenced.

CHALLENGE 02 | OPPORTUNITIES

Pro-active and resourced participatory engagement

During the workshop most of the focus was on the first opportunity – creating a forum. Alongside this it was recognised that a programme of events and engagement would be necessary, building on existing work. This would need to be shaped by the forum and the overall roadmap.

2a

Establishing and resourcing a citizens participatory engagement forum supported by spaces, networks and access to information.

Promoting a joined-up approach to giving residents a voice in decisions that effect their everyday life and building understanding of long-term future scenarios. Realised through a forum/ citizens panel and network for people and organisations to share experiences, knowledge and resources. Representation from other sectors as appropriate.

Outcome

- True partnerships with the community. Communities able to involve themselves.
- Ensuring diverse voices integrated into decision-making.
- Spaces and networks for collaboration
- Access to shared data, information and resources in user-appropriate form.

Timeframe

- Short term This will be to informing and shaping the other opportunities.

Dependencies

- Envisaged as an enabling action to secure community buy-in for other opportunities. It will help to support bids for funding and resources and inform the green-blue masterplan (13a).

2b

Expanding the programme of events and engagement exploring the role and value of water and how this relates to other agendas.

Establishing a programme of communication and participatory events to explore the value of water. Framing and to balance positive and negative. Creating excitement, sharing success and avoiding fatigue. Respond to day-to-day needs and aspirations whilst exploring the long term. Learning from, and aligning with, other programmes.

Outcome

- Initiatives that inform and support other opportunities, building on previous work.
- Deepening local knowledge, sharing success.
- Align with local programmes and wider messaging and opportunities such as COVID-19 recovery and COP26.

Timeframe

- Short term and ongoing. This will inform and shape the other opportunities.

Dependencies

- Important that this is informed by the initial engagement activities and programme is shaped to support the other initiatives.
- Events and actions can be aligned with delivery of 13a as projects emerge on the ground increasing opportunities.

CHALLENGE 10 | OPPORTUNITIES

Water resilience for livelihoods: jobs, skills and the local economy

Two clear, mutually supportive opportunities arose in response to this challenge. Whilst planning of both could start now as part of engagement, messaging and project delivery, it is anticipated that these might be medium to long term activities supported by the other actions.

10a

Developing desirable and accessible local pathways to training, skills and jobs in water resilience.

Developing pathways for education, training and jobs in water resilience engaging with the water sector and business community, schools and universities. Education to turn negative perceptions into positive opportunities and futures in water resilience. Identifying skills gaps and employment needs. Addressing the barriers to uptake

Outcome

- Water resilience is a highly desirable and sought-after career with clear pathways for school leavers.
- Increase in post 16 training courses related to resilience/flood management, filling local skills gap.
- Options for re-training in water resilience.
- Attracting and retaining students to the region.

Timeframe for action

- Medium term. This is the first step to enabling the other opportunities.

Dependencies

- Aspects will form part of initial engagement. Impact will be reinforced by 10b, and schemes on the ground.

10b

Developing new business and innovation in water resilience. Supporting local economy whilst exporting products and services.

Encouraging the development and uptake of innovation and new business offerings linked to water resilience in Hull. Encouraging opportunities linked to 'Build Back Better', green recovery and climate action through new technologies, new WSUD and retrofit. Looking at funding and incentives work with the Insurance sector and academia.

Outcome

- Political buy-in to vision of Hull as a pilot and demonstrator/ test-bed/ centre of excellence.
- Supporting 'home-grown' skills and jobs whilst and attracting and retaining global expertise.
- Exporting expertise, products and services in water resilience.

Timeframe

- This opportunity will likely be unlocked gradually, supported by delivery of the other actions. However it could be accelerated depending on funding opportunities.

Dependencies

- Interdependent with 10a but likely a follow on. Part of the wider engagement programme and other demonstrators.

CHALLENGE 12 | OPPORTUNITIES

Mainstreaming and implementing water sensitive design

The discussion focussed on two complimentary aspects of driving water WSUD, balancing demand with and enforcement with incentives. Whilst creating bottom-up demand for WSUD is key, this is highly interdependent with the other opportunities and likely to emerge over time. However, a distinct action is strategically to lobby at local and national level for structural change to drive WSUD into day-today practice.

12a

Lobbying for and achieving structural change to make WSUD easy and the norm, supported by demonstrators and evidence on the ground.

Establishing a cross stakeholder strategy and working group to make WSUD easy and the norm. This will include lobbying and campaigning for structural change in guidance, standards and regulations and funding and incentives at local and national level, influencing decision-makers and creating demonstrator projects to build evidence.

Outcome

- Influencing regulations and legislation.
- Linked funding and incentives in place including for adoption and maintenance.
- Supporting design codes, guidance and influencing professional practice.
- Demonstrator projects and evidence .

Timeframe

- Short-medium term start. Impact will take time and could be medium – long term.

Dependencies

- Impact likely to be strengthened by earlier engagement activities. Strong links to 13a and 13b and the green-blue masterplan that will build evidence through built examples and inform wider opportunities to implement WSUD.

12b

Creating public acceptance and demand for Water Sensitive Urban Design

Focusing on creating bottom-up public demand and acceptance for WSUD, bringing it into the mainstream and making it understood, attractive and expected. Less focus on structural change and practice, and more on education, perception and demonstration of value through actual projects, combined with evidence emerging from the other opportunities.

Outcome

- Increased public understanding of WSUD and demand for it to be included proposals. Support for innovative WSUD schemes.
- Understanding of asset operation and maintenance. Innovation in models for cross-sector and community adoption.
- Developers see the value in WSUD and are incentivised to invest in it. Businesses see the demand and are encouraged to innovate.

Timeframe

- Likely longer term. Unlocked more slowly , supported by delivery of the other actions.

Dependencies

- Highly dependent on other opportunities. Strong links to 13a and 13b and the engagement programme. Supports 10b.

CHALLENGE 13 | OPPORTUNITIES

Community-scale retrofit for water resilience and well-being

A clear theme emerging from the resilience assessment was how to balance city centre regeneration and innovative large scale scheme with more localised impact within communities A very clear 'anchor' opportunity emerged linked to the existing schools SUDs programme, coupled with an opportunity to build more evidence.

13a

Expand the 'Soak it up' SUDs programme from schools to communities.

Changing behaviours and building capacity by doing. Expanding the 'soak it up' SUDs demonstrator programme and to wider community-scale retrofit. It will align with the Hull and Haltemprice SUDs Masterplan and major five year retrofit programme. It will support ongoing research and engagement activities. A key 'anchor' opportunity that will unlock and support the others.

Outcome

- Delivery of more SUDs schemes within schools.
- Delivery of SUDs and water sensitive urban design within communities.
- Aligning with other opportunities in terms of engagement, demonstration and best practice.

Timeframe

- Short-medium term expansion following on from initial engagement programme.

Dependencies

- An 'anchor opportunity' at the heart of the resilience roadmap. Delivery on the ground will reinforce other outcomes.
- Links to the Hull and Haltemprice SUDs masterplan.

13b

Evidence and delivery mechanisms for small-scale interventions.

Exploring different approaches to assessing, implementing, funding, maintaining and gaining trust in small, community-scale interventions. Creating a narrative and evidence base for the value that these bring, alongside larger infrastructure and city-centre interventions. Supporting small-scale action with structural measures, resources and capacity building.

Outcome

- Mandate and resources for LWW to develop the resilience roadmap and action plan.
- High-level vision statement and narrative.
- Map and align with existing programmes.
- Map existing major opportunities such as the UN Climate Change Conference to be held in Glasgow November 2021 (COP26)

Timeframe

- Long term. This opportunity will be unlocked gradually, supported by delivery of the other actions.

Dependencies

- Whilst this can start now, most impact will come from delivering demonstrator projects linked to 13a and 12a.

CHALLENGE 15 | OPPORTUNITIES

Social and cultural capital for community water resilience

This challenge focused particularly on the non-physical assets within places and communities and how these might support water resilience. The two opportunities approach this from two angles – one primarily taking a water-perspective, the other starting from the point of view of the community.

15a

Aligning water with existing community assets and priorities.

Understanding existing social and cultural community assets and activities. Learning from and aligning with these. Integrating water resilience into existing communities groups and activities by framing in water resilience in their terms and looking to support their outcomes. Understanding how community assets can support water resilience.

Outcome

- Mapped alignment of existing activities and assets.
- Better understanding local needs and priorities.
- Learning from other initiatives.
- Increased community buy-in.
- Informing design and delivery and strengthening case for future funding bids.

Timeframe

- Short term. Ongoing.

Dependencies

- Supporting engagement and design. Alignment with other sector programmes may unlock resources and efficiencies.

15b

Increase visibility and understanding of water infrastructure assets.

Make water infrastructure more visible to increase the awareness of its function and role within the city. Making more use of physical water assets and data to communicate the value and role of water and awareness of how water has shaped the city and landscape. Utilise infrastructure design to secure buy-in, ownership and better engagement with water resilience.

Outcome

- Improved awareness of water assets, the role they play and accepted value to the city.
- Evidence of shaping new designs and retrofit/ operation to increase impact/value and understanding of water assets.
- Community buy-in to adoption and maintenance.

Timeframe

- Medium - long term.

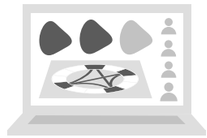
Dependencies

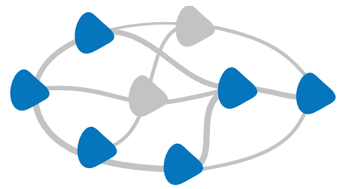
- Linked to engagement programme. Real impact dependant on delivery of projects on the ground to demonstrate value.

5

ROADMAP

This section describes the process of analysing the interdependencies and alignments between emerging opportunities and prioritising these into an initial high-level roadmap. It looks at alignment with existing projects and programmes and indicates some potential next steps.





TOWARDS A ROAD MAP TO IMPLEMENTATION

Following the visioning and opportunities workshops, Arup and the LWW team undertook further qualitative analysis to understand the alignments and interdependencies between the opportunities. The diagram below indicates an emerging roadmap prioritising and linking the opportunities with a view to identifying initial actions during the next stage (CWRA Step 3).

PLANNING AT PROGRAMME LEVEL

Due to the cross-cutting nature of the challenges and the complex interdependencies across the CWRA framework the opportunities are inevitably highly interlinked. However, some opportunities are more distinct and are therefore more natural first steps, whereas others might more effectively emerge over time. Many of the first steps to action identified during the workshops were similar across multiple opportunities. For example, activities relating to engagement and creating tangible demonstrator projects emerged as opportunities in their own right, but during the workshops these were also identified askey to unlocking other opportunities such as 12b - '***Public acceptance of and demand for WSUD***' and 10a ***'Supporting new business and innovation in water resilience'.*** Framing the opportunities in this way allows focus on first steps at programme level, avoiding duplication and unnecessarily detailed planning of opportunities that may emerge over time.

ENGAGEMENT AND DEMONSTRATION

Short term steps are emerging around opportunities linked to community and stakeholder engagement, shared narrative and consensus-building. Opportunity 13b 'Expansion of the schools and communities SUDs programme' emerges at the heart of the roadmap, shaped by this initial engagement as a tangible programme linked to the Hull and Haltemprice SUDs masterplan. Other opportunities will emerge from this process of engagement, demonstration, and extenral factors such as funding.

A DESTINATION AND A JOURNEY

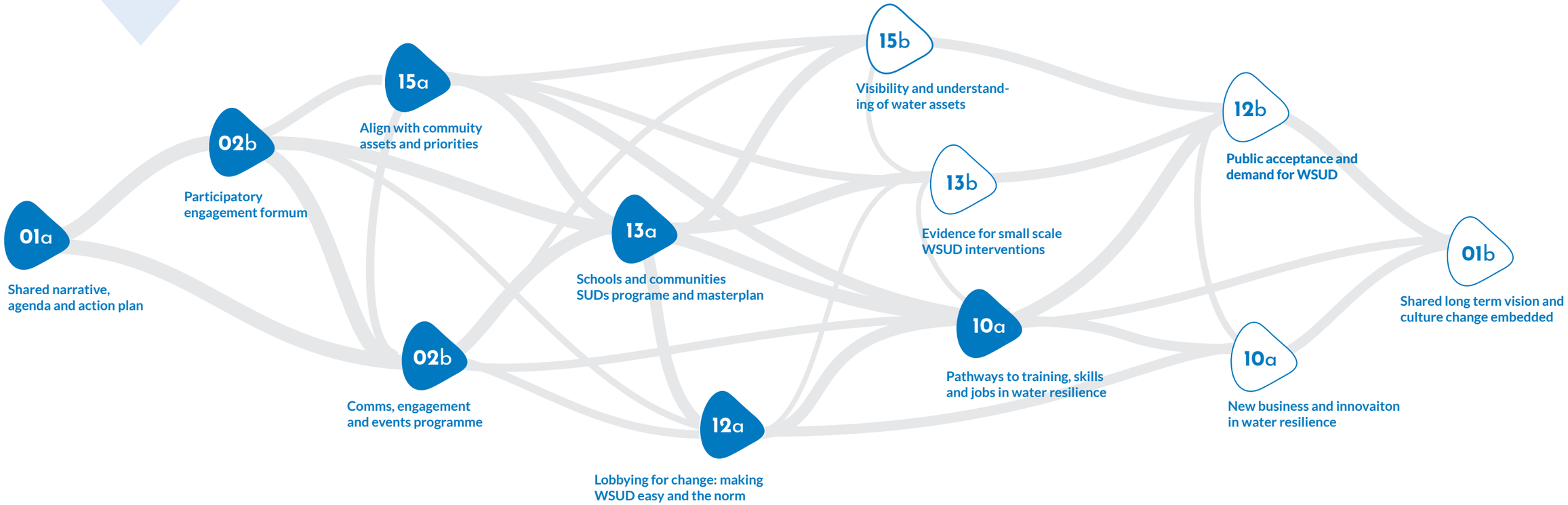
Challenge 01 ***'Embedding a new shared narrative and culture change around water resilience'*** gave rise to two opportunities. 01a emerged and one of the first steps to unlocking the roadmap, whilst 01b is a shaped as a long term opportunity for transformational change that will likely emerge and be reinforced as a result of other actions creating evidence on the ground. These two opportunities 'bookend' the provisional roadmap. In this way, each of the opportunities identified is both a destination, a desired outcome, and also part of the journey: a potential action along the way.

AN ADAPTIVE PROCESS

The roadmap provides an overall framework, a direction of travel and a suggested starting point. It is an emergent process that should remain adaptive and responsive to stakeholders and delivery context. The participatory process itself will shape the roadmap and next stages of prioritisation and action planning.

01a Opportunities provisionally prioritised to inform the next stages of action planning. The road map can be reviewed on an ongoing basis and relative priorities will be shape by this process.

01b Opportunities initially identified as more highly dependent and likely to emerge over time as a result of supporting actions taken in advance. This is indicative and may change over time.



ALIGNING EXISTING PROGRAMMES

LWW already have a broad programme of projects underway to address water resilience. Some of the key projects are mapped against the resilience goals below. This shows that many of the priority areas are already being addressed. It highlights why some challenges aligning with areas where projects are underway, for example linked to Goals 6, 7 and 8, were not prioritised during the challenge setting. Goals 3 and 4, where less projects are mapped, align with areas that scored highly in terms of resilience, showing that they are already being addressed across other programmes and activities. Whilst no projects map directly against sustainable funding and finance (Goal 5), this is a cross-cutting enabler that underpins all actions and emerging opportunities will be key to delivering the roadmap going forwards. One of the first recommended actions is further to review this programme against the resilience profile and opportunities within the roadmap. Undertaking a similar mapping of projects and programmes across other sectors could also be a useful next step, alongside commencement of the engagement activities linked to the first steps in the roadmap.

CWRA RESILIENCE GOALS

Most sub-goals aligned

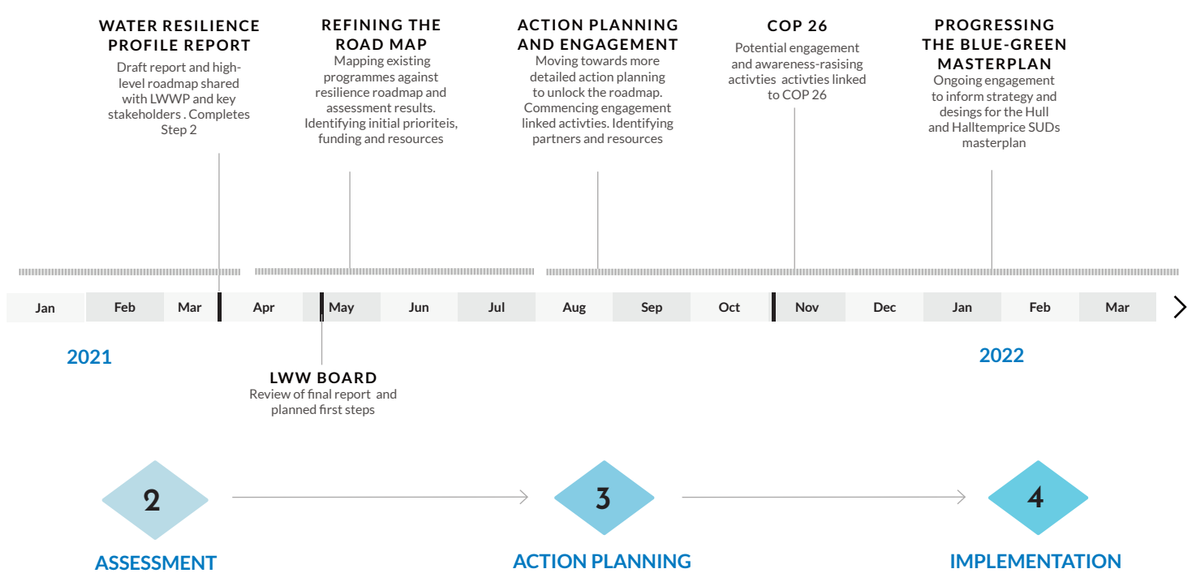
Some sub-goals aligned

LWWP PROJECTS & PROGRAMME	Empowered Communities 1	Strategic Vision 2	Coordinated Basin Governance 3	Effective Regulation and Accountability 4	Sustainable Funding and Finance 5	Adaptive and Integrated Planning 6	Effective Asset Management 7	Effective Disaster Response and Recovery 8	Equitable Provision of Essential Services 9	Protected Natural Environments 10	Healthy Urban Spaces 11	SProsperous Communities 12
LWW Partnership Board, Impact Report & KPI's			■			□	□	□			■	□
LWW Technical Group	□		■			□	□	□			■	□
LWW Comms and Engagement Group Campaigns	□		□			□	□	□			■	
Wilberforce Community PFR Hub &YW Learning Lab	□					□		□				
Humber Waste Alliance (HWA)						□						
LWW Baseline study and household survey	□							□				
LWW Education Programme - Primary Schools	□									□		
LWW Summer Community Events	□							□		□		
iCASP Communicating Flood Risk Project	□							□				
LWW Birds Eye Pilot			□			□	□			□		
LWW Infrastructure Programme						□	□			□	■	
Blue Green Development Plan		■				□	□			□	■	
Hull Supplementary Ploanning Document							□				■	
ICASP Telemetry Project							□			□		
MOCA and MAGIC	□		□					□			□	
IPPR Report			□									
LWW Conferences incl Waterline		□				□						
Hull Engagers Group	□		□									

Existing LWWP Water Programme mapped against water resilince goals

NEXT STEPS

Living with Water will be reviewing the Water Resilience Profile report and high-level roadmap and mapping this against current and future planned activities, working with partners to refine priorities and identify resources. This is expected to be an adaptive and participatory process, reinforcing existing ongoing actions and working with stakeholders towards a water resilient Hull.



Provisional activites linking to the CWRA Steps

CONTACT INFORMATION

Lee Pitcher | Living with Water Partnership
Lee. Pitcher@yorkshirewater.co.uk

Martin Shouler | Arup
Martin.Shouler@arup.com

Paul Simkins | Arup
Paul.Simkins@arup.com